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REPRESENTATIVES AND STOCKS IN ALL PRINCIPAL CITIES

Products at the Heating Show

Fuel Economy, Improved Comfort New York Show Features

by

J. W. Schulz

CRAMMED WITH EXHIBITS of the latest in heating equipment, New York's Grand Central Palace was heated nicely, Feb. 2nd to 6th, for the Eighth International Heating and Ventilating Exposition. The thousands and thousands of visitors from nearby and distant parts of the country did not suffer from underheating.

Fuel difficulties were on the minds of most of the visitors, however. Not many days before the show opened, 1,200 gas-heated homes in nearby Brooklyn were cold, the gas for heating having been turned off because of a gas-shortage crisis. And in Rockland County, N. Y., again came the threat that hundreds of gas-heated homes would be without heat if the gas pressure dropped. Certain areas of Long Island were receiving troublesome gas from overworked gas manufacturing plants; thousands of complaints came from users of crippled cook stoves, water heaters, refrigerators, and house heating equipment using gas.

The fueloil shortage was much on the minds of the oil-heat men attending the show. Significantly, none of these men worried about families back home running out of oil altogether and having to move out. The concern was academic. It had to do with the advisability of installing additional oil-fired heating systems.

Less academic was the concern of two out-of-town visitors staying at a New York hotel when they were told, late one night on arriving in their chilly hotel room, that the district steam line used to heat the hotel had been turned off until morning because of the fuel shortage. If that's true, they concluded, we've got a bituminous coal shortage on top of a shortage in gas and fueloil.

Equipment dealers studying the exhibits showed greatest interest in:

1. New products which provide improved heating comfort for new homes and homes already built. Radiant heating, baseboard radiation, improved heating specialties, and new methods for controlling the heat attracted much attention.

2. Possibilities of finding at the show some type of equipment, 100% modern and acceptable to discriminating home owners, which can help in a fueloil shortage by permitting the use, on a more or less temporary basis, of a substitute for fueloil. Some of the equipment dealers interested in this possibility arrived at the show with hopes not too high to start out. Gas shortages can be worse than oil shortages, they knew, and in many cities the impossibility of obtaining good stoker coal is hindering stokers.

"Nobody who can afford to build a new house or renovate an old one these days wants anything to do with the old-fashioned kind of coal-and-ashes heating system," commented one heating contractor who installed hundreds of oil-fired systems in the past year.

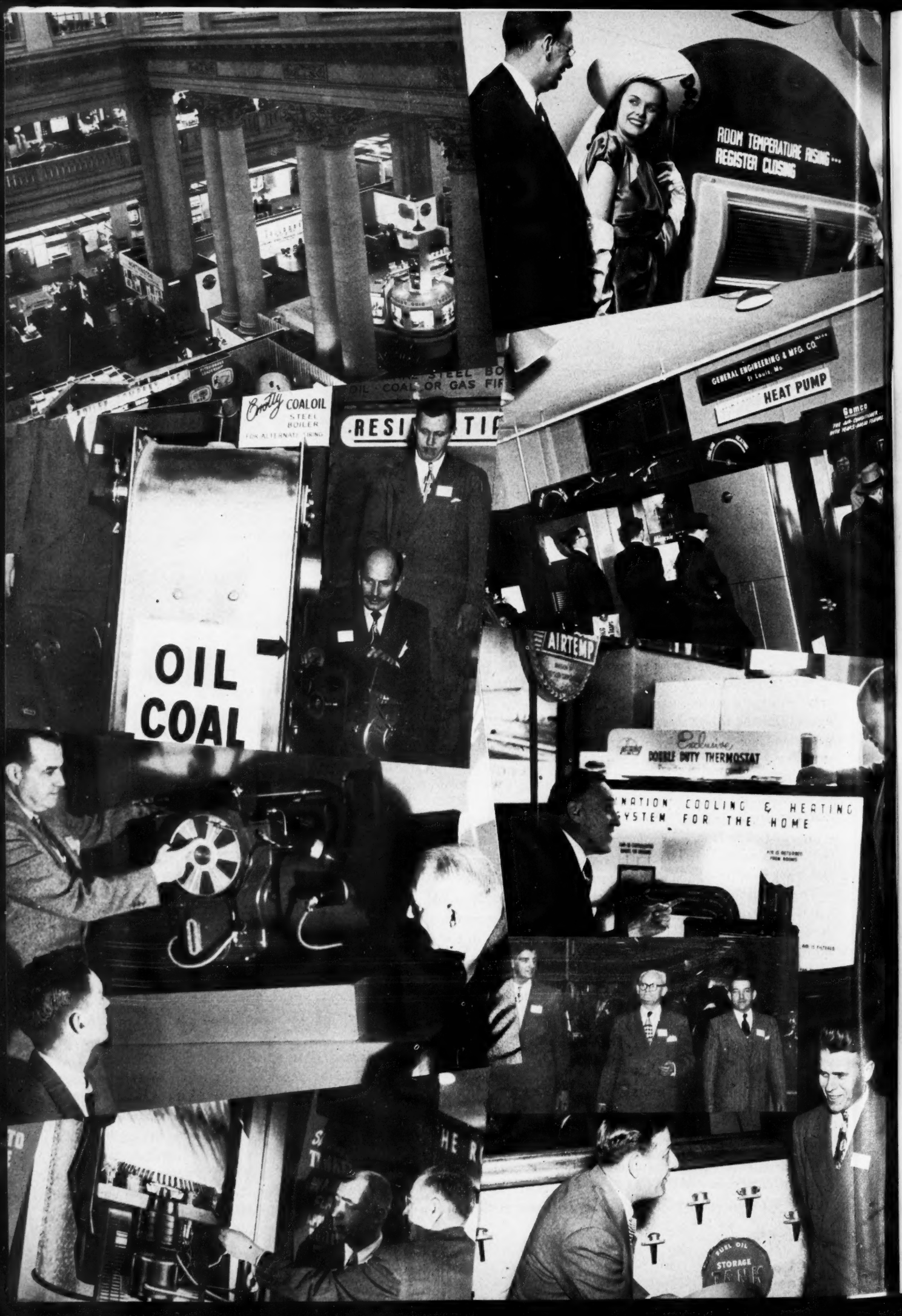
3. Improvements which give better overall oil heating. The most capable, discerning oilburner dealers look for burner operation still quieter, more dependable, and more economical. Breakdowns and first-year service expenses can be reduced even today by improvements in design and manufacture, these dealers point out. Much can be done to reduce oil consumption. Combustion test readings of new, typical installations are proving that too often the stack losses are higher than 15% to 20% of the heat in the oil. On actual installations, the burners should more easily give the high CO_2 readings which manufacturers' technical literature boasts of, and the furnaces and boilers should give the low stack temperatures needed for most economical use of the oil.

The heating experts interested in the first point, new products for improved heating comfort, did not find too many exhibits which emphasized radiant heating. True enough, Bell & Gossett had excellent exhibits showing the use of steel pipe and copper tubing in ceilings, under wood floors, and in concrete floors; and special controls for radiant heating plants were featured by Sarcotherm Controls, Inc. (offering the Thermoray), Automatic Devices Co. (the Weather-Man), and White-Rodgers Electric Co. (two types of indoor-outdoor controls). But no exhibits concentrated on radiant heat and the technical education and material related to it.

Baseboard heating, on the other hand, received concentrated attention in the booths of American-Standard, Burnham, Crane, United States Radiator, and Vulcan. Burnham says its Base-Ray can be used with one-pipe steam heating plants or forced-circulation hot water heating.

As oil heating enthusiasts see it, baseboard heating rapidly is becoming exceedingly popular for both new and already-built homes.

Several items brand-new at the heating show gave sales-minded specialists something to work on. The Dole Thermo-Matic Register, for forced-circulation warm air systems, has a built-in room thermostat arrangement which turns off a damper in the register as the room warms to the desired temperature. The idea is to provide individual room temperature control at low equipment cost for owners of modest homes heated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YSTEM FOR THE HOME
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by furnaces or winter air conditioners. Any of several burner control arrangements can be used.

The Heat Timer radiator vent valve, for one-pipe steam plants, has a temperature scale from 55° to 80° and an indicator for the home owner to set at the room temperature he desires. The valve is supposed to vent the radiator, permitting it to heat, only when the room temperature is lower than the owner desires. Individual room temperature control at rockbottom cost, for owners of one-pipe steam plants which are fired automatically, is the aim of the manufacturer.

Auto-Heat declares that in its winter air-conditioning furnace which also provides year-round hot water, it has the answer to the water-heating problem of owners of furnace-duct heating plants. On display at the show, this winter air conditioner is fired by the Auto-Heat pressure burner with the Fire-Ball Combustion Head designed for efficient combustion of cat-cracked fueloils.

The Five Aces Air Conditioner, displayed by Austen Engineering, has a built-in hot water storage tank located above and inside the jacket of a warm air furnace which is fired by oil. Because both the supply and return duct connections are at the bottom of the furnace jacket, warm air is said to be trapped inside the jacket when the circulating blower of the unit is not operating. Heated by the warm air around it, the hot water storage tank is said to provide abundant hot water throughout the year.

Convertible Winter Conditioner

To help solve fuel shortage problems, Norge Heat introduced at the show four sizes of a Convertible winter air conditioning furnace. This may be hand-fired by coal or fired by a coal stoker or the Norge Heat automatic gas burner or the new Norge Heat pressure burner which is designed especially for highly efficient burning of cat-cracked fueloils. A home owner may install the unit now for hand-fired coal, for example, with the idea of shifting later to the oilburner. The new Norge Heat pressure burner, used for conversion installations as well as for firing this furnace which can burn any fuel, has many special features aimed to produce highly efficient combustion and simplify tune-up and service work.

Designed for easy switching of fuels, the newly-announced Crotty Coal-Oil boiler, for from 450 to 650 sq. ft. of standing steam radiation, has standard rocking grates which remain in place when oil is fired. Split firebrick are placed on the grates together with a pre-cast firebox, when the owner wants to fire oil, and a pressure burner fires through an opening in the back wall of the boiler, above the level of the grates. To switch from oil to coal, the burner simply is swung out of place on its hinge mounting, the firebox and firebrick are removed, and the grates are fired with coal.

Jetronic Conversion Burner

The Jetronic conversion burner was announced and demonstrated at the show by Consolidated Industries, Inc. Rated at from .5 to 1.5 gph, this is a horizontal-flame vaporizing burner, gravity-feed type, equipped with a small forced-draft blower. The blower and motor are the only moving parts; ignition is by oil pilot. Oil flows into a firing head and pilot assembly, is mixed with air and heated sufficiently to vaporize it, then in vapor form travels through a series of jets to the combustion chamber. According to the manufacturer, the burner's advantages include low price, simplicity, ease of installation, and ability to burn Nos. 1, 2, and 3 oils, including cat-cracked oils. A High-Boy winter air conditioner and a boiler, both fired by this burner, were also announced at the show.

The Breese horizontal-flame vaporizing burner was displayed by Conco Engineering Works. Available in a manually-controlled model for up to 2/3 gph, and in automatically-controlled high-low models for up to 2/3 gph or 1.0 gph, this is a forced-draft, gravity-feed burner equipped with a motor which draws only 14 watts. It is said to be especially suitable for heating plants, floor furnaces, cooking ranges, and water heaters.

Quaker's complete line of vaporizing equipment was displayed with emphasis on newly developed controls which start and stop automatically a circulating fan in a space heater, and provide complete protection in case of failure of the forced-draft blower. The Quaker vaporizing pot-type conversion burner, said to be engineered especially for small homes, has a patent device called the Quakertrol, which automatically gives different amounts of air for the low-fire and high-fire while the blower motor runs continuously.

Duo-Therm's new feature, announced at the heating show, is an "exclusive comfort selector." Flipping a switch on the side of the room thermostat permits adjusting the low fire to be very small on mildly cold days and larger on cold days. An improvement in comfort and fuel economy is said to be the result. This feature is available in six models of winter air conditioning furnaces, with output ratings from 50,000 to 108,000 Btu per hour.

Toridheet's display included a boiler-burner unit and a furnace-type winter air conditioning unit, both engineered to heat low-priced homes and fired by a newly developed wall flame burner model. This burner has many features different than those of Toridheet's earlier wall flame rotaries; for one thing, single ignition is used instead of the two-spark ignition used earlier.

Timken, aiming to fit smallest homes, displayed at the show for the first time its High Boy boiler-burner unit, for a maximum firing rate of ½ gph, and featuring a combination hot water expansion tank and tankless water heater which is enclosed in the jacket. The copper-coil boiler is fired by a Timken wall flame burner. Taking up very little floor space, low-priced, and of low capacity, this unit is designed to provide abundant heat and hot water for smallest homes.

Shafco, declaring that it originated the idea of a ceiling-hung, oil-fired unit heater, attracted considerable attention at the New York heating show by featuring such heaters for maximum firing rates of 1.0, 1.5, 2.25, and 3.0 gph. Exceptional fuel economy is said to result from a stack temperature no higher than 400° with any of the four sizes fired hard enough to produce rated output.

Ray attracted attention with its display of a burner model capable of pro-

(*Continued on page 155*)

Significant Technical Papers At ASHVE 54th Annual Meet

TECHNICAL PAPERS covering a variety of subjects were presented at the 54th Annual Meeting of the American Society of Heating & Ventilating Engineers, held at New York during the week of the Heating and Ventilating Show, February 1 to 5. Committee and business meetings occupied the first two days. Technical sessions were held February 3, 4 and 5.

One of the most significant papers was "A New Method of Selecting Winter Design Temperatures" by Clark M. Humphreys of the ASHVE Research Laboratory, in which he proposed that design temperatures be selected on the basis of probable frequency of recurrence of low daily mean temperatures. He defined the proper design temperature as "the lowest daily mean temperature which is likely to recur frequently enough during the average winter to justify consideration. Studies were based on 120 cities for 23 heating seasons.

Design Temperatures Too Low

Mr. Humphreys believes that design temperatures in the U. S. are too low in most cases, and added three reasons to support this conclusion:

1. The daily minimum temperature usually prevails for such a short period of time that, because of heat storage within the structure, its effect on the heating load is negligible.

2. It is customary to make heat loss calculations and design heating systems on the assumption that the system must furnish all of the heat to the space. This is never true. Instead, the average building receives appreciable quantities of heat from the sun, lights, occupants, mechanical processes, and other extraneous sources. The room heaters which have been sized for 100 percent of the calculated room loss are helped by their exposed or concealed piping.

3. A system that is oversized is difficult to control and may cause more discomfort in average winter weather than a somewhat smaller system will cause on a few extremely cold days. The smaller system will also be lower in first cost and will operate more efficiently throughout the heating season.

The economics of the heat pump favor commercial as compared with residential installations for the next few years in the opinion of W. E. Johnson, Manager of Engineering, Air Conditioning Dept., General Electric Company, in a paper entitled "Economic and Technical Aspects of the Heat Pump."

In his study Mr. Johnson concluded that for year-round air conditioning in the home the most favorable market for the heat pump will be found in the more southerly part of the U. S. where the design heating requirements are about equal to the design cooling requirements, and where the home owner is willing to pay for summer air conditioning as well as heating. This places the market for the heat pump in houses in the field of higher priced homes.

Commercial applications were favored by the speaker because of the higher internal heat gain in this type of application as compared with houses. This heat gain, from human beings, lights, motors, other sources, tends to reduce the winter heating load and increase the summer cooling load, thus giving a more desirable balance between the loads and the two seasons.

An analysis of a typical case by Mr. Johnson showed that the individual cost of the heat pump is determined by the summer and winter loads down to a 40° F. winter design temperature. Below this the cost of equipment is determined by the summer cooling load. However, in a commercial building where there is sufficient internal heat given to maintain a 15° F. temperature difference, the loads become equalized at 12° F. instead of 40° F. Consequently, commercial applications will be economically feasible much farther north than will house installations.

In Mr. Johnson's opinion the heat pump is competitive in moderate design temperature regions where the cost of electrical energy is one cent per kilowatt-hour or less. An indication of the operating cost based on two commercial and one residential installations is that the power consumed ranges from ½ to 2/3 kilowatt-hour per degree-day per installed horsepower of the compressor.

Locating radiant panel heating coils in the floor results in more uniform air temperatures from floor to ceiling than is the case with either wall or ceiling, according to a paper on "Air Temperature Gradients in a Panel Heated Room," by J. M. Ayres and B. W. Levy, graduate assistants in the School of Mechanical Engineering, Purdue University, where the test house in which the research was conducted is located.

The results of this investigation indicate that floor panel operation caused uniform air temperatures within ½° F. between one foot above and below the floor and ceiling respectively; this uniformity was maintained independent of load. The ceiling panel gradient, however, shows a maximum variation of 8° between the same points and a minimum variation of 4.5°, the variation increasing with load. Air temperature gradients for exterior wall and interior wall panel operation exhibited almost identical curves and were an approximate mean between the floor and ceiling gradient shapes.

Measuring Heat Output

It is possible to predict the heat output of a radiant heating panel within an average of 3%, according to experiments conducted by R. S. Leigh, Chase Brass & Copper Co., and R. G. Vanderweil, consulting engineer, and reported in a paper entitled "Measurement of Heat Output of a One Square Foot Panel." A graphical method of determining panel heat output proposed by Dr. F. E. Giesecke and adapted by Vanderweil, from which charts for both flow and ceiling panel design, was employed.

Comparison of the test results with that indicated by the chart for corresponding conditions, showed that the maximum deviation of test results from the chart was ± 10%, but the average for all tests was only ± 3%, although the range of panel heat output was large —from 27 to 125 Btu per sq. ft. (panel) (hour). The magnitude of the deviation was not related to the position of the panel, whether ceiling or floor, nor to the proximity of cold glass surfaces.

Getting The Last Btu

Frontier's Preventive Service Shows Advanced Thinking

by

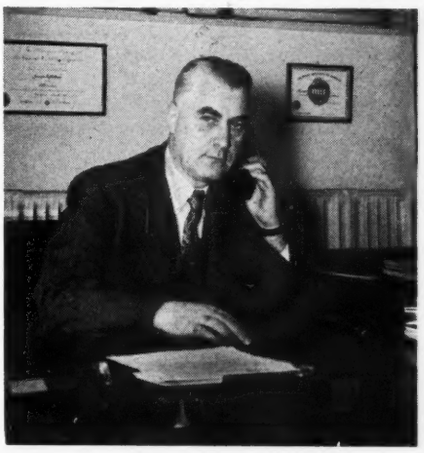
Henry D. Crane

WHEN JOE COLLINS WAS elected chairman of the national Distribution Div. of the Oil-Heat Institute a year ago, it wasn't simply because he had a good job and a pleasing countenance. Some of the folks that were to do the electing had heard Joe bring fresh thinking, imaginative thinking, into the committee meetings in recent years and recognized the value of being able to get such an approach to some of the industry's recurrent problems.

Collins is manager of the oilheating division for Frontier Oil Refining Corp., Buffalo, large distributors of fueloil and York oilburners throughout several counties of Western New York.

Something over a year ago, when ideas about universal service plans were current topics at industry meetings in the East, Collins mentioned casually, "We have something like you're talking about at Frontier—some day when we both have a few minutes, I'll explain it to you."

When the "few minutes" didn't show up, it finally was necessary to chase Joe to Buffalo with a sworn promise to take off a day and visit. The delay in getting the story actually improved its timing . . . when ever before did our industry so need ideas on fuel saving as this winter, with prices playing "Cow jumped



J. A. Collins

over the moon" and supplies in some markets singing "Now you see it and now you don't"?

Simply stated, Joe operates a plan of universal burner service to all customers, included in the fueloil price at one-half cent a gallon. That isn't in itself so unique, for quite a number of companies about the country do something similar, including most of the other fueloil distributors in Buffalo, but the operation of such a program, in a way that it gives near perfect oilheating to every account and yet stays within a half cent cost allowance, is worth describing.

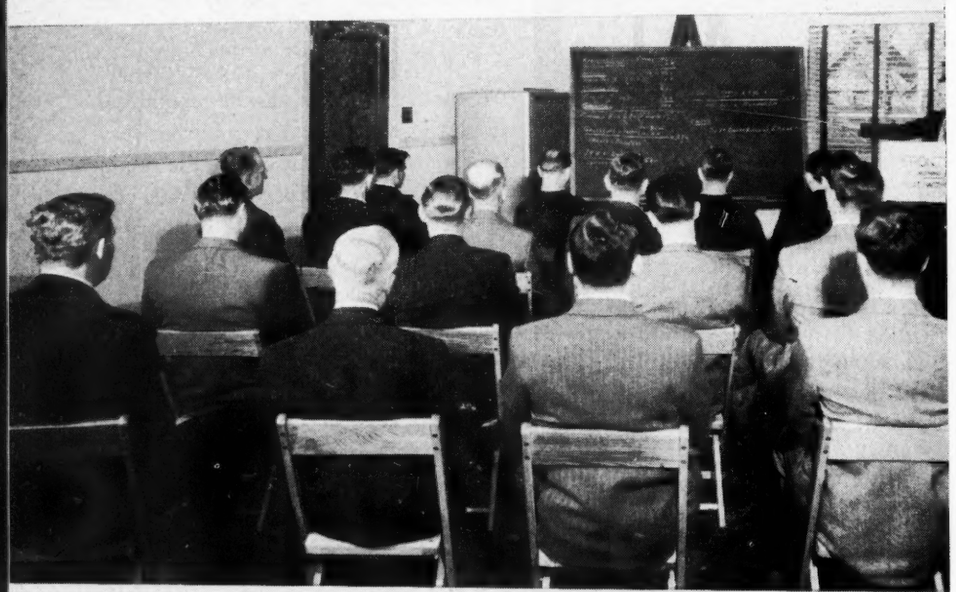
When Frontier first tackled the Buffalo oilheating market, gas was in the lead as an automatic fuel, and still is. With a 900 Btu mixed gas selling at 60¢, including no-charge service and with constant aggressive gas selling campaigns, the only way to make headway in oilheating was to offer and consistently provide a facility and service as good or better than provided by the other fuel.

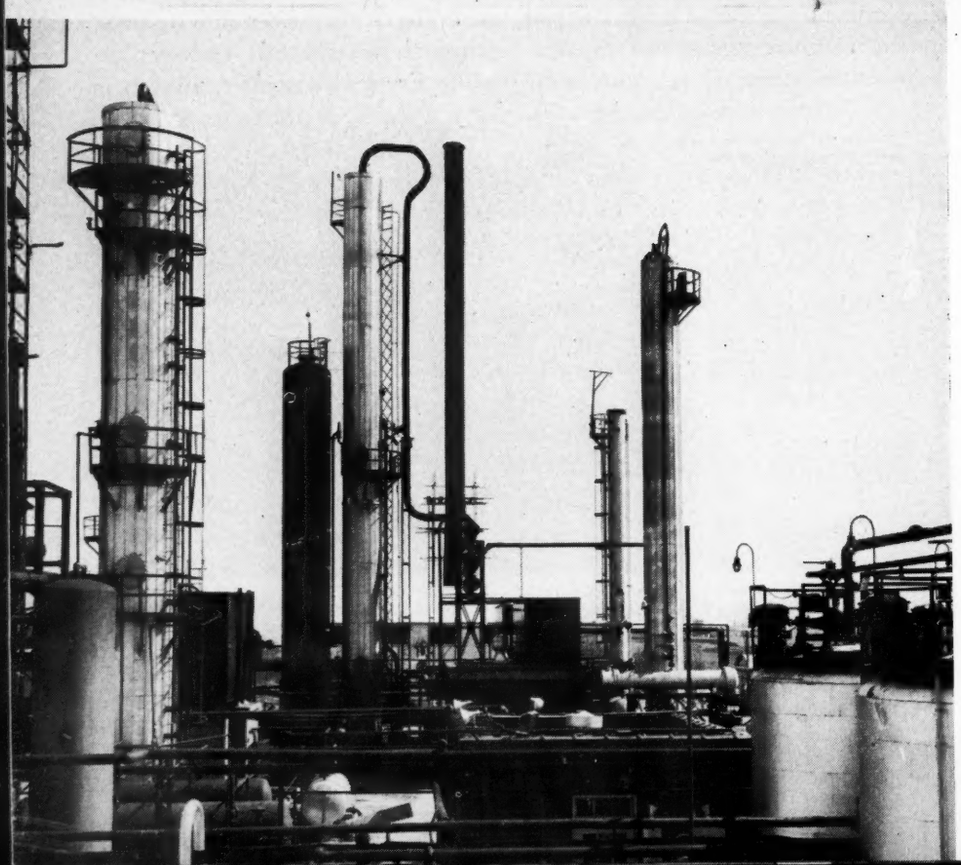
Oilheating must not only be virtually trouble-free, it must also be economical. It was logical then that oilburner service should be the nucleus of the organization's policies, rather than a side consideration as it is with the majority of oilheating firms.

While Frontier sells burners and fueloil in a wholesale way over several counties, its retail operations are in Buffalo and Niagara Falls only, and it is in those major markets that it has developed its burner service on fuel economy lines.

There are, for example, seven Frontier burner service men in the city of Buffalo, six working during the days and one at nights . . . the night trick is rotated. The city is divided into six areas, each with around 800 customer accounts. Every man works exclusively in

Frontier's *Oilburner Division occupies this mid-city building. Head offices are in downtown Ellicott Square. To the right are shown ten of a total of seventy-nine oil trucks of various types that the company uses, although some of them are over-the-road transports in wholesale work. Trailer trucks used for retail fueloil delivery, have 4,200 gal. capacity. On average days they deliver 6,700 gals. and sometimes reach 8,400 gals.*





Top: *Uniformed service men take care of Frontier customers at Buffalo and Niagara Falls. Shown are: (l. to r.) W. Cousins, E. Hird, J. Rutkowski, H. Bale, W. Jewel, H. Baun, L. Eschner, W. Jaeger and W. Deth.*

Middle: *Collins brings in his dealers, or their servicemen, frequently during the year for educational sessions.*

Bottom: *Frontier has its own refinery at nearby Tonawanda with a daily capacity of 10,000 barrels of all products. The plant can produce as high as 42% yield of distillates, the superintendent reports*

his own territory and in time gets to know pretty much about every burner in it. Service men do not touch installations—there are separate crews for that work. Service men do no selling other than actual repair parts immediately needed to make the job perform. They report to the head office all needs that they may notice in the way of heating system improvements and these leads are handed to salesmen, or to neighborhood dealers.

The men do give every job a thorough vacuum cleaning and tune-up each year (at any time between March 15 and October 15). On these annual clean-ups the men fill out check sheets covering ten operations, and showing orsat, draft and stack readings, all turned in to the head office.

When the tune-up jobs are out of the way the men spend all of their time that is not needed on emergency calls in going from job to job, repeatedly checking and testing. The average account gets between two and three calls a year.

At the peak service season the average man will have about two calls a day from his lot of customers, with around one-fourth of these being "no-heat" calls. All service calls come into the main office and the men must turn in subsequent reports until final correction of the trouble.

Each man is graded for excellence of performance, not on the total number of calls he makes, but on the absence of call-ins to the office. A perfect score would result on days when he had no call-ins whatever, showing that his regular routine burner inspections were keeping every job in good shape for the moment. This follows the thinking of the Chinese about their doctors, wherein they pay doctors only when they are well, never when they are sick.

It is significant that real emergency

calls are so few in the Frontier office that one night man is able easily to handle all that come in outside of normal working hours.

Most of Collins' new fueloil accounts come through burner installations, but not all. When a new prospective oil customer calls in or is seen by a salesman, a prospect that did not buy a burner, the oil account will not be accepted until a burner service man has had a chance to inspect the equipment. If he finds it decrepit or seriously at fault, the oil account won't be taken unless the owner is willing to have everything put in shape. The service man, who is going to be held personally responsible for near perfect heating service, is the real boss in his territory and has full authority to refuse the cripples.

Even on new oilheating jobs, whether put in by Frontier or someone else, the service man has to be satisfied. Some new burner jobs are actually refused as oil and service accounts, if the heating plant is inadequate or the burner badly installed.

Wholesale Sales to Dealers

In the city of Buffalo, Collins sells at wholesale to 27 neighborhood dealers. His retail sales are confined to conversion burners only, so that boiler and furnace work all goes through the hands of his dealers, most of whom are heating contractors. But Frontier's men install 80% of all the jobs that the dealers sell. On those that the dealers install themselves, the company still has an indirect control over the quality of the installation work, in that its service men always inspect the jobs before oil will be delivered to them, and before the service men will take them in tow for keeps.

Outside of the city within about a 75 mile radius, Collins has 38 more dealers. He does not sell oil at retail to their accounts so his service men can't control them. As a substitute, he repeatedly conducts training courses for the dealers and their mechanics in Frontier's special training quarters, and in addition holds group meetings at several selected towns where he can pull in the whole organizations of a half dozen dealers at a time. Moreover, he keeps a full time man on the road working with these out of town dealers, training, supervising and inspecting. In that way Collins believes that he is getting substantially better than average installations and customer service, even in villages and in dealer organizations too small to be fully trained on their own initiative.

Collins has an enviable organization, streamlined to modern techniques, setting a pattern for the industry in its concept of responsibility to customers to get the last Btu for their dollars.

The only major improvement that might be suggested would be to add another mill or two on the oil price and supply all needed burner parts without charge — complete service insurance, shock proof. Joe points out, on the other hand, that their preventive service is so complete that only rarely are any parts required, so that only a few customers are ever charged for any extras.

Conservation Is Theme Of Oil Industry Campaign

MEETINGS in areas affected by the current tight supply situation have been held by seven district public relations committees to mark the opening of the oil industry's public relations program. The program seeks to promote the conservation of oil by the individual during the winter months and also to explain to the public the extent of the unprecedented demand and what the industry is doing to meet it. Employing the slogan "If everyone saves, there will be enough for all," the program aims to accomplish necessary savings through voluntary action and permit the industry's distribution system to function without government rationing and control.

Concurrently with the meetings, active participation of all companies in the industry has been solicited directly in letters and announcements sent out by William R. Boyd, Jr., president, American Petroleum Institute. In one letter, Mr. Boyd emphasized the importance of individual company efforts and explained that the program should be conducive to obtaining immediate savings in consumption and serve as an excellent vehicle to inform the public of the industry's efforts. A second letter was addressed to presidents of companies in areas not affected by the supply situation.

The conservation program was first proposed at API's annual meeting during last November and amplified at talks between industry and government officials early in December. A subcommittee of the public relations operating committee supervised preparation of the campaign and has cleared a series of advertisements, radio announcements, booklets, leaflets, speeches for civic clubs and similar material to be used by the districts in their campaigns.

The effort in the conservation drive is to provide sufficient savings to create a margin between supply and demand to provide for all needs in every part of the country regardless of its geographical proximity to producing centers.

Canadian Figures Show Rise in Fueloil Use

DELIVERIES OF HEAVY fuel oils to Canadian users totaled 1,074,299,625 gallons in 1946 compared with 844,751,603 gallons in the previous year, the Dominion Bureau of Statistics reports. About 20% of this total was used in ships' bunkering, 28% for fuel in manufacturing plants, 19% for heating homes and buildings, 9% for locomotive fuel, 3.5% for tractors and other motor vehicles, 2.4% for electrical plants, 2.7% for material in manufacturing plants, and 15% under refinery boilers. The provincial distribution in 1946 was as follows: Maritimes, 123,637,655 gallons; Quebec, 259,331,104; Ontario, 343,818,696; Manitoba, 12,115,496; Saskatchewan, 44,340,898; Alberta and Northwest Territories, 74,169,852; and British Columbia and Yukon, 216,985,924 gallons.

Consumption of light fuel oils and distillates used for domestic heating amounted to 117,715,621 gallons compared with 47,337,659 gallons in 1945, while tractors used 47,955,258 gallons in 1946 compared with 39,559,370 gallons in the previous year. Total deliveries at 169,473,996 gallons were distributed by provinces as follows: Maritimes, 14,539,729; Quebec, 64,369,493; Ontario, 23,749,503; Manitoba, 18,573,576; Saskatchewan, 19,666,725; Alberta and Northwest Territories, 12,979,543; and British Columbia and Yukon, 15,595,427 gallons.

For Example, North Carolina

States With Fastest Oilheating Growth Having Most Trouble

by
Robert Gray

THE LADY CAME IN a taxicab, driving into an impressive bulk plant on the outskirts of Fayetteville, North Carolina. Obviously of a lower income family, cab riding was a luxury, yet the cost didn't matter if her mission was successful . . . to get her five-gallon container filled with kerosene for a floor furnace, that was the only means of heating a small place her G.I. husband had bought, as she explained. She didn't get it filled, for there was nothing in the plant to fill it . . . hadn't been a drop for four days and wouldn't be any more for a week, when the February "allotment" from the big supplier would be released.

Coming in person to a bulk plant to get fuel is something new this winter, but there's a line of them trying it all over North Carolina, where the second half of January was spent in visiting oil men and their plants scattered throughout the state from tidewater on the east to mountains in the west. And the story was almost the same everywhere. The growth in demand for both kerosene and No. 2 fueloil had been somewhat greater than in most parts of the country with the result that the supply stringency was more acute. Fully two-thirds of North Carolina oil men were completely out of kerosene during the last January week, and about a fourth of them were completely out of No. 2 oil.

Those that were not out of product were going through the most unbelievable antics ever encountered in the oil industry. They were delivering oil to central heating plants in drops as small as 25 gallons. They were pumping out No. 2 oil from homes with the larger tanks and moving it down the block to some favored neighbor whose house was cold. They were going out to the country and finding here and there farmers who would let them drain what kerosene was left from last summer's tobacco curing. They were going without heat in their own offices at the bulk plants, some of them, and that made them even more convincing on the telephone as they refused friend after friend.

One oil man who still had No. 2 oil (700 gallons to last a week) was trying to juggle his 200 odd furnace oil customers to see if he could tide them over until the magic February 1 allotment would come. His dispatcher had suggested using a squirt gun, and let the trucks take a rest.

Suppliers Couldn't Help

Throughout the state, oil men were haggard over the futility of it all. They would camp on the telephone with their suppliers' district or division offices, trying every imaginable kind of story to soften their tough attitudes, but nothing happened. Overhearing these conversations brought a feeling of distaste toward division managers in general, for while they were obviously reflecting the head office policies and decisions, one couldn't escape the feeling that if any of these upper level men had been in contact with the people who were actually cold, their answers would have been a little less pat . . . that while the brass hats deplored the unfortunate statistical position of the industry, the local oil men sweat real blood.

And what curious, unimaginative things those "allotments" are. One marketer in Goldsboro was given 90,000 gallons of No. 2 oil in December, less than he needed, so he pulled down his stocks. In January he was given only 45,000 gallons. Why? Because last year in January he had bought only 50,000 and the allotment was 10% less, by months. The year before he had happened to buy less than usual in January because he had fairly large storage and hadn't needed more. Meanwhile the large storage had been cleaned out, but that meant nothing whatever to the mathematical moron in charge of allotments.

Actually the heating oil requirement in Goldsboro this January was two-thirds above a year ago, based on weather alone and taking no account of the large growth in oilheating users. In moderate climates like North Carolina, weather variations can make a big difference in oil needs. Goldsboro has no weather bureau, but the oil men check their gasoline temperatures daily and list them for temperature adjustment purposes. Running through the January lists for last year and this, it was apparent that the mean temperature was about 40° this year and 50° last year. This stacks up to an average of 15 degree-days per day last year and 25 this year, a rise of two-thirds.

In the western part of the state some oil men are going through all of this difficulty while operating on a one cent margin for No. 2 oil. It's a situation that will probably get relief eventually, but that's how it is just now. Several of the majors supplying the western counties get their oil from the Plantation pipeline and the rate structures in that area are based on the posted pipeline price plus short haul overland transportation. The largest supplier in the state, the "reference seller" or price leader uses the pipeline with its low operating cost and bases prices accordingly.

Pipeline Inadequate

But all of the majors supplying western North Carolina cannot use the pipeline—it hasn't enough capacity for all—so some bring their products by tanker to Wilmington or Norfolk and then there's a stiff cost for a long overland haul, all of which for the moment comes out of the local oil man's margin. It's another one of those mathematical problems that the big supplier will correct in time, but in today's turmoil it's an extra twist of the knife.

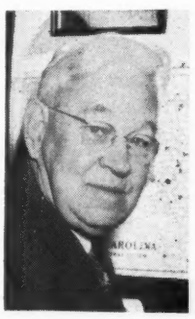
North Carolina's troubles are accentuated by its faster than average growth as an oilheating state. Of course it is still small in totals, referring to burners for No. 2 oil. At the start of last year the state had 23,853 central heating oilburners and during 1947 got 9,751 new installations, not including replacements. So it ended the year with 33,

Representative Oil Men Visited In North Carolina

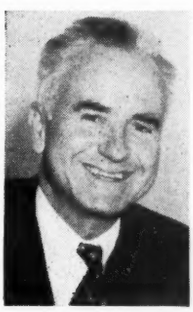
T. W. McCracken, J. C. Mann and *Wm. McCracken,* respectively president, vice-president and secretary of McCracken Oil Co., at Henderson. With bulk plants in three cities, the company is now rebuilding the one at Henderson . . . will erect this year new tankage of 275,000 gal.

J. Parks Gwaltney, Gwaltney Oil Co., Durham, recently retired as president of the No. Car. Oil Jobbers Assn., but continuing his interest in general industry affairs as chairman of the National Council of Independent Petroleum Assn's. and member of the National Petroleum Council, Washington Sells Oil-O-Matic burners.

Wm. A. Parker, executive secretary of the North Caroline Oil Jobber-Assn. and of the National Council of Independent Petroleum Assn't. Has been particularly active on state legislation affecting oil men and is a student of oilfired tobacco curing methods.



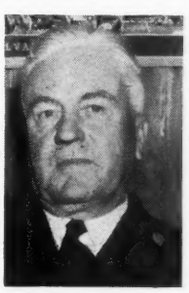
Broadus Wilson, president General Air Conditioning Co., Raleigh, the only equipment man visited who does not handle oil. As distributor for G-E and York oilburners throughout the eastern half of the state, his January business this year exceeded last January . . . and he has budgeted this year as a whole to exceed 1947. An advocate of large customer tanks, he points out that most oil companies prefer them.



Daniel and Bruce B. Cameron, masterminds of the MacMillan Cameron Co., Wilmington, builders of the original deep water terminal at that port, sellers of oil and Master Kraft oilburners. They also conduct a large wholesale tire and accessory business and a wholesale and retail home appliance establishment. With all of these responsibilities, they yet find time to fly their own planes, keep riding horses in the back yard and trek to California annually to shoot elk and wild boar on an island off Santa Barbara.

G. H. Harrison, Harrison Oil Co., Williamston, with distributing plants also at Robersonville, Oak City, Windsor and Aulander, total capacity a million gallons. With 6,000 people, Williamston is 90% oilheated, although there are only about 300 basement oilburners, the balance space heaters. It's a rich town, surrounded by tobacco and peanut fields.

E. M. Thompson, Thompson-Wooten Oil Co., with plants at Goldsboro and Kinston. Important tobacco centers, these towns have high cash incomes, beautiful homes, and much oilheating. Active in Assn. affairs for many years, Thompson is well known to every oil man in the state.



Jas. K. Glenn, Archer B. Glenn and *Paul A. Bennett,* principal officers of Quality Oil Co., Winston-Salem, largest independent oil marketers in the state. The company also sells Fluid Heat and Viking oilburners. New homes in town are 90% oilheated, and there are 385 now under construction in two developments, all slated for oil. Company has seven bulk plants in as many western state towns.

A. B. McMillan, McMillan-Shuler Co., Fayetteville. This town grew from 40,000 in 1940 to 70,000 today, largely because of Ft. Bragg, huge nearby army post. McMillan's business rose fourfold in three years. With 1,500 oilburners and 8,000 space heaters in Fayetteville, not to mention the surrounding developed area, the oil stringency is most acute.

C. B. Myers, Myers Oil Co., Statesville, another town with extraordinary growth in recent years. It had no war industry but since VJ Day has acquired three substantial industries. With oil supply particularly difficult, Myers' customers are asking for larger tanks—he has three carloads on order, 1,000 and 2,000 gallon size. Even his space heater customers want 550's and 1,000's.

C. M. Barringer, president, Superior Petroleum & Fuel Co., Newton. Past president of the Association, Barringer is also well known in oil industry circles outside of the state. He has for some time been active on the Marketing Committee of the A.P.I.

604, for a rise of 40.9%. This compares with the national average rise for the year of 27%.

On kerosene applications, the growth for the state was also most impressive. Official state figures for the first 11 months of 1947 showed kerosene sales of 214,588,381 gallons, a rise of 52,040,297 gallons or 32% over the 162,548,084 gallons sold in the same period of 1946. And of course the 32% rise in actual deliveries does not reflect the full rise in demand, or the supply stringency would not have developed so quickly nor so seriously.

It is interesting to notice that No. 2 oil this winter will total only about 50 million gallons, or less than a fourth of the kerosene demand.

Large Farm Demand

It is pretty generally known that a lot of North Carolina's kerosene needs are agricultural rather than domestic. Out of 280,000 tobacco curing barns in the state, 90,000 are oilheated. Using an average of 900 gallons each during the July-August curing season, this accounts for 81 million gallons. Other farm uses, such as drying of sweet-potatoes, poultry raising, etc., will bring the agricultural total to 100 million gallons, leaving around 140 million for space heaters, range burners and floor furnaces. At an average of 700 gallons each, this would indicate 200,000 homes so heated, or nearly seven times as many as there are conventional oilburners.

The growth rate of tobacco curing with oil is impressive. For illustration, in August 1945 the state's kerosene sales were 9,493,012 gallons; in August 1946 they were 21,806,384 gallons; in August 1947 they were 49,082,224 gallons. Most of the August purchases are for farm uses.

Oil men do not believe that 1948 will see as large an increase in tobacco curing demand. Tobacco stocks in the country are high, stimulated by fat prices, and there is danger of price collapse, particularly now that our best export customer, Britain, has banned imports of American tobacco. The Department of Agriculture is advocating a 28% reduction in acreage this year and will probably put it through, by way of the farm support program.

Thus the average farm will cure less tobacco, though there is nothing to prevent farms now curing with wood going to oil. In fact, one manufacturer of tobacco curing oilburners at LaGrange, North Carolina, was turning out 45 a day through January and keeping about a month behind orders at that rate, so there will be some growth.

Bigger Tanks

One unexpected blessing from all of the supply troubles this winter in North Carolina is the determination of thousands of householders to get larger tank storage before next season. On central heating jobs the dealers have always gone in for big storage, with very few jobs having less than 550 gallon buried tanks and many ordinary sized homes having 1,000 gallon tanks. Yet these customers are asking that they be provided even larger storage. A Winston-Salem oil man has ordered three carloads of 1,000 and 2,000 gallon tanks to sell to present customers. Folks want better control of their own supplies.

This is even more noticeable in the space heater field. All over the state you hear oil men say, "Never again will I supply customers with one drum, or even two drums." They want them to have at least 280 gallon tanks (the common local size), and the customers are just as anxious to get them. A large oil company in High Point recently bought 500 tanks of the 280 size at a cost of $32.50. The customers will buy them "as is" and at little above the dealer's cost, take them home themselves and install them. They mount these obround tanks high on the wall of the house for gravity feed to the space heater, then screen them with a shed structure or trellis.

North Carolina's faster than average growth has brought supply headaches not encountered so much in slow-growth states. The oil industry, at its top economic level, has always operated with some kind of a surplus, except in wartime when distribution was controlled.

As long as the industry had surpluses it was not necessary to accurately recognize the differences between areas in rate of growth. As a result, there was no machinery set up to deal with such problems in this year of no surpluses. Falling back on the tradition of "no discrimination . . . treat everybody alike," there would naturally be areas of the country, as well as communities within an area, where such a policy actually led to the worst kinds of discrimination—discrimination against the public. It might be sporting and easy to give every dealer everywhere a fixed relationship to his previous year's business, but that is the weakest kind of policy in relation to the public . . . which incidentally is our industry's boss first, last and all the time.

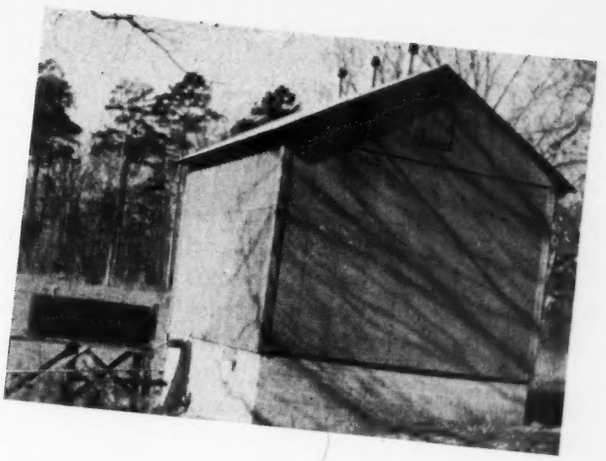
An example of this lack of discernment is the region about Fayetteville. During the war Fort Bragg boomed the town. The war ended, the boys went home and the town slowed away down . . . it was that way last winter. This year the Army moved several units back into the fort. A large percentage of those soldiers are now married and have permission to live off the reservation. There are twelve thousand more families now living in the area, off the reservation, than there were a year ago—living in every conceivable domicile, temporary housing and such like. They all burn oil, or nearly so, yet the dealers get no special consideration to handle this upsurge.

The Diesel Blues

After finishing the visiting trip around the state, to save time this is being written at Southern Pines. The window of the hotel room looks across to the double-tracked main stem of the Seaboard Railroad, New York to Florida. A coal fired locomotive just went by, a sight for sore eyes that have seen almost nothing but diesels for days. The answer, of course, is that it was a local freight, nine cars and caboose.

The lady in the taxicab at Fayetteville, in going empty-handed back home from the bulk plant, was held up a few moments at a crossing for a triple diesel unit and a long freight to pass. She probably hadn't the slightest idea that the contraption was of any significance in her life. But it was.

The three principal roads in and through North Carolina are the Seaboard, Southern and Atlantic Coast Lines. They all employ diesel locomotives in profusion. Several have passed the window since starting this story. A triple unit locomotive, commonest in this area, uses an average of one and a



Oil For The Barns of Carolina

OUT OF A TOTAL of 280,000 tobacco barns in North Carolina, about 90,000 are oilfired. 35,000 of these installations were made in 1947. A substantial majority of recent installations are pot-type burners, although the sleeve-type were the originals and are still very popular.

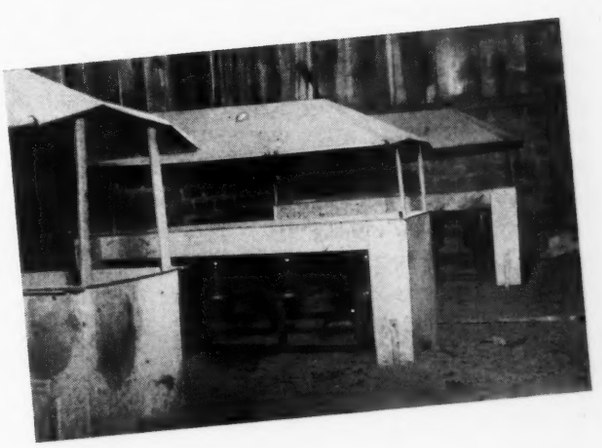
A farm needs one barn to each four or five acres of tobacco, also one full time man for about the same acreage, with the result that most farms have several barns and several workers with their families living in small houses.

At present prices, 45¢ to 50¢ a pound, an acre of tobacco will bring in from $500 to $800, a strictly cash crop.

Curing temperatures range from 75 to 180°, depending upon condition of the leaf and the stage of curing. Most farmers are skeptical of automatic controls, since no two of them have exactly the same ideas about temperatures and timing. The average cure takes about four days, and the tobacco involved is worth from $500 up, depending upon the barn size.

PHOTOGRAPHS. *Above: The old and new in tobacco barns, both oilheated. Right: R. L. Wiggins, Super Burner Co., LaGrange, N. C., manufacturer of the pot-type tobacco curer shown in the lower left corner of the page, looks over a rendering kettle in which one of his tobacco burners has been installed. Below: Forrest H. Smith, president of Smith Heating, Inc., Kinston, N. C., said to be the inventor of the first successful oilfired tobacco curer. Smith makes a sleeve-type burner similar to the one shown in the lower right corner.*

Not using a stack, this type passes the combustion gases through the tobacco.



quarter million gallons of oil a year. That is enough to heat for a year a thousand good sized homes in North Carolina, or a couple of thousand of those using space heaters. It would heat 600 large homes in New England.

We probably have to have diesels because they're more efficient than coal engines, or so the industry economists tell us. Could it be possible that efficiency can reach a point of diminishing returns, in which it becomes unimportant when the good neighbors are shivering? Could you get anyone in North Carolina today to agree that diesel locomotives are better than coal fired ones, if they knew that diesel fuel is robbing them of home heating fuels? Or even after the present emergency has blown over, do you believe anyone would prefer riding in a train hauled by diesel power instead of steam if they knew that it meant they must burn coal in their homes instead of a clean and carefree automatic fuel? As W. A. Parker, secretary of the North Carolina Oil Jobbers Assn., put it, "The average person rides a train once or twice a year and while they may not like the smoke from a coal locomotive in summertime, actually the inconvenience is nothing compared to having to work with coal in your own home every day in the year."

This all lends emphasis to the public relations problems of the oil industry. For over a year we have been spending hundreds of thousands of dollars to convince the public that the industry is not monopolistic and that it doesn't connive on prices (both of which are true), but does the public care one iota about such things as compared to its concern over keeping warm? The way to the public's heart, for the oil industry, is to give to the rank and file of every community the products it wants in proper quantities and at reasonable profitable prices. That involves for the industry the cutting out of certain industrial business where coal would do as well, and doing something to check railroad diesel growth, and soon.

The top levels of the oil industry are beginning to stir over the implications of this problem. They have been haled into congressional hearings more in recent months than in their entire previous history. Some of them are already starting to chop down their industrial demand (notably Socony and Shell) in order to provide more products of general public interest. But there's yet a long way to go.

Possibly some discussion of these problems with your customers would be wholesome. Could it be that all they really want from the oil industry is gasoline, lube oils, heating oils and farm fuels? And if that's true, could maybe a few million of them stir things a little to help speed the realization?

Small Shift in Yields Would Ease the Stringency

There has been considerable discussion among oilheating men over whether distillate fuels had been given fair treatment in the expansion of refinery output during recent months. To arrive at an opinion of this a brief study was made of crude runs to stills of gasoline, kerosene, and distillate yields, during the last seven months of 1947. May was selected as the starting point for the study because it is an in-between season's point, when fueloil needs have been pretty well taken care of, and when gasoline stocks are normally high, just before the start of the heavy demand season. The table shows totals and yields by months:

Throughout the period represented by the table the percent yields of distillate fuels gradually increased from 16.5% in May to 18.2% in December. Also the actual number of barrels per day increased by 22% during that period, from 646,000 in May to 789,000 in December. Notice that gasoline yields stayed relatively constant in percentage, starting with June, although the total amount of gasoline produced per day rose 14% from May to December.

Particularly significant are the figures in the first column, showing a rise in crude runs to stills of over 10% in the daily average from May to December. This is the measure of the growth rate of the industry as a whole during the period and promises well for the future.

While distillate yields and actual distillate quantities were being regularly increased through the months studied, they were not increased enough, as is obvious by today's short supply position. It is interesting to see how much they should have been increased if the industry were to be in as good shape at the end of December as it had been on the previous December. For a comparison of this kind, June 1 is a good starting point because that is always considered in oilheating circles to be the start of fueloil's fiscal year. On June 1 distillate stocks in primary terminals East of the Rockies stood at 23,935,000 barrels. The previous year they had been 24,556,000 barrels, so we can say that they were virtually the same in each of the two years, and that the season this year started from scratch.

But when we get to the end of December we find distillate stocks East of the Rockies to be 35,845,000 barrels, which is 10,510,000 barrels below the point at which they stood in the year previous. In other words the oil industry East of the Rockies failed by that amount to produce enough distillate in the June to December period to keep stocks in as good shape as they had been the year before.

Now during the seven month period the average yield from a barrel of crude of distillate was 17.2%. This should have been 18.4% on the average to have given us stocks at the year's end as good as the year before.

Now notice the gasoline yields . . .

Output and Comparative Yields In All States East of the Rockies

(All figures in thousands of barrels daily)

1947	*Crude Runs*	*Gasoline*	*% Yield*	*Kerosene*	*% Yield*	*Distillate*	*% Yield*
May	3,925	1,680	42.8	274	7.0	646	16.5
June	4,155	1,754	44.3	285	6.9	667	16.1
July	4,186	1,896	45.3	278	6.6	686	16.4
Aug.	4,241	1,930	45.5	277	6.5	704	16.6
Sept.	4,297	1,930	44.9	274	6.4	745	17.3
Oct.	4,252	1,944	45.7	291	6.8	765	18.0
Nov.	4,249	1,906	44.8	290	6.8	759	17.9
Dec.	4.331	1,915	44.2	313	7.2	789	18.2

the average for the seven month period was 44.7%. It is significant that the quantity of gasoline is more than double the average daily quantity of distillate fuels, so that if the gasoline yield had been reduced by only one-half of 1% the distillate yield could have been raised the necessary 1.2% to bring it up to where it should have been to make our year end position as good as the year before. In other words, a gasoline yield of 44.2% would have permitted an 18.4% distillate yield. Thus, the actual amount of distillate fuel produced in the seven-month period was 6.4% less in gallons than should have been produced to give us a year-end stock position as the year before.

Naturally, having the same stock as the previous year would not have solved all of the problem because during the peak months of the winter season the demand this year will be around 25% above that of last year. On the other hand, it is fairly safe to say that if we had arrived at the year end with stocks as good as a year ago, the refineries could have turned out the necessary increased amount during the actual burning season. They will probably do it, anyway, now that the seriousness of the situation is fully realized, and it is probably true that our actual acute stringency is reflected in the ten million barrels that we are short in terminal storage. After the experiences of this winter it should be possible to get for next season a more effective balance between products, if the industry is to operate in the public interest.

Justice Department Gives OK To NPC General Oil Program

A GENERAL PROGRAM to ease the current stringent petroleum situation, drawn by a special committee of the National Petroleum Council, was presented to Secretary of Interior Krug on January 22, and was cleared by the Department of Justice as being free from anti-trust law violation on January 28. The committee, headed by Dr. Robert E. Wilson, was appointed by NPC on January 9, at the request of Secretary Krug.

The other members are: H. T. Ashton, Socony-Vacuum, Chicago; Jacob Blaustein, Pan American, Baltimore; Russell B. Brown, Independent Petroleum Association, Washington; H. S. M. Burns, Shell, New York; F. B. Dow, National Petroleum Association, Washington; John Dressler, New Jersey Gasoline Retailers Association; R. G. Follis, Standard of California; J. Parks Gwaltney, North Carolina Independent Petroleum Association; B. C. Graves, Union Tank Line; B. I. Graves, Tidewater; Walter Hochuli, Texas Company; George A. Hill, Jr., Houston; W. T. Holliday, Standard of Ohio; Eugene Holman, Standard of Jersey; B. L. Majewski, Deep Rock; W. A. Jones, Cities Service; Clyde Morrill, Atlantic Coast Oil Conference; Howard Marshall, Ashland Refining; I. A. O'Shaughnessy, Globe Refining; and Russell S. Williams, Indianapolis.

The program, the first under the recently enacted anti-inflation law, contains 20 points designed to increase supply and reduce demand for all petroleum products, with special emphasis on heating oils. It is notable that the "Voluntary Petroleum Allocation Agreement" does not recommend the restriction of oil-burner installations, though it does state that "the rate of growth of demand for middle distillates must be checked."

Current problems, according to the report, stem from the rapid growth in demands for all petroleum products. The accompanying tables show the growth in oil-consuming units, and the expansion in production which the industry has been able to make to meet the greater demand.

Recommendations are aimed to (a) increase supplies of middle distillates; (b) insure equitable distribution of supplies, and (c) temporarily reduce the demand. Specific recommendations are:

1. State regulatory commissions should establish allowable crude production equal to maximum efficient rates, in each state east of the Rocky Mountains.

2. Refineries operating east of the Rocky Mountains should maximize crude runs during the next 60 days, to the extent crude oil can be made available, even though such action may reduce substantially crude oil inventories.

3. Refineries operating in this area should further adjust upward the yield of distillates at the expense of gasoline during the next 60 days.

4. The oil industry should have sufficient steel to enable it to continue its expansion program.

5. Imports of crude oil should be increased if possible to the extent necessary to supplement domestic supplies.

6. Added tanker capacity should be made available, in keeping with present plans.

7. The practice of a seven day week loading and unloading of tank cars should be adopted by all companies for a 60 day period.

8. Continue and further extend exchanges and short term loans of petroleum products to save transportation.

9. Available fuel oil supplies should be distributed equitably among the various categories of customers and channels of distribution at all levels of distribution.

10. The handling of hardship cases indicated by the short supply situation should be treated at the local level by those who understand the problems.

11. Consumption of middle distillates must be reduced. The individual consumer must bring this about. All consumers should practice oil conservation. A complete pattern of suitable measures has been offered to the domestic consumer by the oil industry. Certainly the most prominent means of accomplishing this objective is carrying lower temperatures in all buildings where oil is used for radiation purposes. Comparable steps must be introduced by commercial and industrial users and by military and other governmental agencies. The oil industry and each individual company of the industry must give wide publicity to the necessity of the consumer reducing his needs. It is believed that the tank wagon driver affords a most effective means of disseminating this message. The tank wagon drivers as well as other representatives of the industry who contact the public should be schooled in this need.

12. All consumers both domestic and industrial who have alternate or stand-by heating equipment which could use

Growth of Petroleum Consuming Units

1941-1946 and Estimated 1947

Consumption Units In Use	1941	1946	1947	1947 % Increase Over 1946	% Increase Since 1941 1946	% Increase Since 1941 1947
Passenger Cars (Thous.)	26,713	26,901	28,416	5.6	.7	6.4
Trucks & Buses (Thous.)	4,682	5,680	6,000	5.6	21.3	28.2
Tractors (Thous.)	1,783	2,672	2,844	6.4	49.9	59.5
Space Heaters (Thous.)	2,000	3,035	4,250	40.0	51.8	112.5
Oil Burners (Thous.)	2,269	2,673	3,200	19.7	17.8	41.0
Diesel Locomotives—Units	1,032	4,196	5,281	25.9	306.6	411.7

Expansion of Petroleum Supplies Consumed

1941-1946 and Estimated 1947

(In thousands of barrels daily)

	1941	1946	1947	1947 % Increase Over 1946	% Increase Since 1941 1946	% Increase Since 1941 1947
Gasoline	1,903	2,138	2,289	7.1	12.3	20.3
Kerosene	199	268	297	10.8	34.7	49.2
Distillates (Heating Oils)	520	746	877	17.6	43.5	68.7
Residual Fuel	1,089	1,333	1,436	7.7	22.4	31.9
Crude Runs to Stills	3,861	4,740	5,047	6.5	22.8	30.7

other fuels should be urged to utilize such facilities.

13. The rate of growth of demand for middle distillates must be checked. Since there is an over-all short supply of middle distillates, placing additional demands against the industry cannot but aggravate an already acute situation.

14. The next 60 days must be characterized as a period of inventory reduction of middle distillates among all consumers. The home owner should not request that delivery be made as long as his supply of fuel oil on hand is in excess of two weeks' requirements. The large consumer, buying in tank car quantities, should observe the same inventory limitation. The governmental agencies including the Military, should limit inventories and to the extent possible serve current needs by inventory depletion. In local communities where supply is not adequate to meet total requirements, it is recommended that quantities delivered be limited as may be necessary to spread available quantities as equitably as possible among all users. In some areas limiting deliveries to 30 days' requirements may be adequate, while in others it may be necessary to restrict delivery to time periods of substantially shorter duration. This will necessitate the temporary abandonment of the keep-filled system of delivery now practiced by many distributors in substantial parts of the market.

15. All units of the industry should instruct their representatives to cooperate with committees at the local level, to relieve hardships as quickly as possible and to prevent hardships from developing.

16. Exports should be limited to the extent possible consistent with overall necessities of our international relationships.

17. Gasoline consumers as well as fuel oil users, should adopt conservation measures.

Distillate Production at New Record in January

PRODUCTION OF GAS-OIL and distillate reached an all-time record of 7,496,000 barrels (approximately 305,000,000 gallons) for the week ended January 17, the American Petroleum Institute reported in its weekly summary of the nation's petroleum operations.

Kerosene production also was up from the previous week, permitting stocks of these vital fuels to remain at comparatively satisfactory levels despite cold weather in many parts of the country.

Gas-oil and distillate stocks for the week ended Jan. 17 were 44,482,000 barrels, down slightly more than two million barrels from the previous week.

Crude oil production again set a new record, 5,326,000 barrels, and runs to stills were up appreciably from the previous week. Runs to stills averaged 5,344,000 barrels daily, a gain of one percentage point of operating capacity over the week ended January 10. Refineries operated at 94.2 per cent of capacity for the week.

Pan-American Refinery Strike Quickly Settled

ON JANUARY 5 all of the workers at the Texas City refinery of Pan-American Oil Company walked out on strike. The oil industry expected that this was probably the first in a round of requests for wage increases that will come plant-by-plant. The capacity of that refinery was 93,000 barrels a day and if its percentage of distillate fuel per barrel of crude is running about average, that meant a loss of three-quarters of a million gallons of home heating oil a day. Just as quickly as news of the strike reached oil industry circles on the East Coast wires started pouring into Washington from everywhere not only to Senators and Congressmen, but also to the Secretary of Labor and to the President.

Perhaps never before did any strike stir such a storm of protest in a few brief hours. Senators who had been active on three committees investigating various phases of the petroleum stringency and who are well aware of its seriousness, were shocked by the thought of a strike coming at this season. Recommendations and urgent pressures of one kind or another were quickly put on both parties concerned with the strike. The labor group saw that it was exceedingly unpopular and that harm could be done to its general cause unless the men got back to work quickly. On the other hand, the company recognized the merits of making some small wage adjustment and so the strike was settled on the basis of a wage rise of eight and a half cents an hour. One week to the day after the strike started it was over and the full force back at work.

"I hope Higgins realizes that he isn't fooling anyone with that thing!"

OHI Silver Anniversary Show "Bigger and Better than Ever"

ALL SPACE on the largest floor area ever to be reserved for an exposition of the Oil Heat Institute of America was completely sold four months before the show is scheduled to open, according to officials of the Institute, and a waiting list is being compiled to taken any cancelled space. The original contract covered 22,700 square feet of space in the Chicago Coliseum for a show to run from April 5 to 8. This space was sold out quickly, and 4,450 sq. ft. more was opened adjacent to the main exhibit floor. This additional space was sold before the end of the year.

One hundred and twenty-four exhibitors, many with large space, are scheduled to display their products at the Silver Anniversary National Oil Heat Exposition. Though there will be much that is brand new on display, it is understood that the emphasis will be on better and more efficient operation of oilfired equipment. Exhibitors represent the whole industry, members and non-members of OHI alike.

In addition to the show, a full schedule of convention sessions had been arranged, and entertainment is planned to make the first week in April a gala affair for oilheating men. A warning has been issued to all manufacturers and dealers to make their hotel reservations as early as possible. It is expected that a record attendance will be on hand.

Because of continuing heavy demand for hotel accommodations in Chicago, a Housing Bureau has been established by OHI in order to assure sufficient accommodations for members of the industry during the week of April 5 to 8. Everyone is urged to make immediate hotel reservations by sending first, second, third and fourth choices of hotels to the Convention Housing Bureau, 105 West Madison St., Chicago 2, Ill.

"The year 1948," President R. S. Bohn of OHI points out, "is the 25th anniversary of the industry's birth. It is an historic year, but also one that promises to be epochal if we choose to make it so. As the Silver Anniversary Exposition and Convention will demonstrate, our industry has come of age. The American public is highly receptive to its products. How the industry conducts itself, how it meets its obligations to the public, during this and succeeding years will tell the story as to whether it makes the most of its present tremendous opportunities.

"We have national expositions, along with annual conventions, scheduled at Boston in 1949 and at Philadelphia in 1950, and all the Institute's activities—manufacturing, accessory, distribution, research and public relations—are growing, and must grow, to satisfy the industry's increased need for a clearing house and for cooperative endeavor.

"Let me stress again that the coming Silver Anniversary National Oil Heat Exposition and Convention at Chicago embraces the whole oil heating and allied industries. The products exhibited and the important discussions heard will help bring home to industry and public the great progress made over 25 years, and will demonstrate the industry's ability and purpose effectively to serve the public in the future."

Speaking of the equipment to be shown at the Chicago show, A. E. Hess, managing director of OHI predicted, "Significant improvements and important trends will be noted which sellers of equipment must see with their own eyes and discuss with the trade if they expect to keep up with these fast-moving times.

"First-hand contact is particularly important this year. Last year oil burning equipment practically sold itself. This year evidence points to our having to adjust our selling to certain circumstances. It can and will be a good year if distributors and dealers want it to be.

"There is an enormous replacement market ready and waiting. Manufacturers are well aware of this as will be seen in new and improved equipment to be shown which will emphasize fuel and other savings. No time in the history of the industry has there been greater equipment improvements than those which will be revealed at Chicago.

"This, coupled with the fact that oil is the preferred heat, means that the oil burning industry is basically sound. It can offer its equipment to the public on the basis of economy and efficiency.

"At the annual convention held in conjunction with the exposition, there will be authoritative talks and general discussions on engineering improvements, on sales methods, on the problems of the industry and how to meet them. To keep in step, it is necessary to be there and see and participate.

"Besides it will be an historic occasion—celebrating 25 years of industry progress. There will be entertainment for the ladies who are cordially invited. At the annual banquet top-flight entertainers will be heard, and dancing will follow. I urge everyone to make hotel reservations now," Mr. Hess said.

Exposition Committee, Oil-Heat Institute of America planning for events during the Chicago convention. L. to r.: C. R. Jonswold; J. A. Collins, chairman, Distribution Div.; J. W. Owens, chairman, Accessory Div.; A. E. Hess, managing director; R. S. Bohn, president; C. F. Curtin, secretary-treasurer; W. A. Matheson and L. A. Casler. Rudolph Gustafson was not present when photograph was made.

High Pressure Nozzle Ratings

Capacities and Spray Angles Are Determined by Standard Tests

by

E. O. Olson*

HIGH PRESSURE gun type oilburner nozzles have two principal functions. These two functions make it one of the most important, if not the most important, accessory on the burner. They are: (1) Metering the oil and (2) Atomizing the oil.

Metering

When speaking of nozzle ratings, the first thought that comes to mind is the gph (gallons per hour) at a pressure of 100 psi (pounds per square inch). It is necessary to know, within fairly close limits, what flow rate is expected from each nozzle in order to fire a furnace or boiler properly. Nozzle ratings are available in the smaller capacities with a difference between them of .10 gallon per hour. The BTU input for a boiler need not be controlled that closely, but there are jobs in which a slightly higher or lower flow rate improves the burner performance.

For the purposes of this discussion it is not essential to analyze what effect nozzle construction has on the rate of flow of oil through it. For the benefit of those new in the business it may be stated that the capacity is governed by orifice *and* slot dimensions. They go together, and a nozzle made up of a 1.00 gph distributor and a 1.65 gph orifice probably will not work satisfactorily. The manufacturers of nozzles have their own dimensions which will deliver the desired gph according to the standards set up by them as a reference. After the nozzles are constructed to those dimensions, they are tested to see that they deliver the proper gph under those standard test conditions. It is customary for manufacturers to permit a variation from the specified rating of 5% over or under. For example, a 2.00 gph nozzle is properly rated if it delivers between 1.90 and 2.10 gph of a standard test oil, which for the sake of this illustration we shall say has a viscosity of 35 S.S.U. (Seconds Saybolt Universal) at the operating temperature of 80° F., an API gravity of 36° at 60° F. and at a pressure of 100 psi. The method of measuring the flow rate is not important in this discussion, even though it is one of the most exacting processes in the manufacturing procedure.

Let us follow our 2.00 gph nozzle to a customer and, for the sake of argument, let us say it tested 1.91 gph 80° at the factory. If this nozzle is installed in a job using an oil with the same specifications as indicated above, it will give the same performance when the oil temperature is at 80° F. But what if the oil is different from our reference oil? (See also Shell Research Laboratory reports published 1938.) Figure 1 shows what happens to the nozzle capacity with oil of different viscosities. This curve is shown as a shaded area because nozzles do not all perform alike, depending upon their design and size. Some nozzles will show wider variation than that shown, but the curve shows approximately average performance. If the viscosity of the oil at room temperature is say 33 S.S.U., the nozzle may deliver about 3% *less* than 1.91 gph or 1.85 gph, which is no longer within the 2.00 gph tolerance. As the fire box heats up, the nozzle warms up and it follows that with a small flow of oil through it, the oil will also be heated in the nozzle and become less viscous, say down to 30 S.S.U. The curve indicates that the flow may now be 7% *less* than 1.91 gph or 1.78 gph. Someone checking the flow under these conditions might conclude that he had a 1.75 gph nozzle and not a 2.00 gph nozzle.

Now suppose we have a nozzle testing 2.05 gph on our standard test oil. If it is tested with oil at 40 S.S.U. at a given operating temperature, say 80° F., it may deliver about 5% *more* than 2.05 or 2.15 gph—outside the 2.00 gph tolerance and very much different from our previous 2.00 gph nozzle on the 33

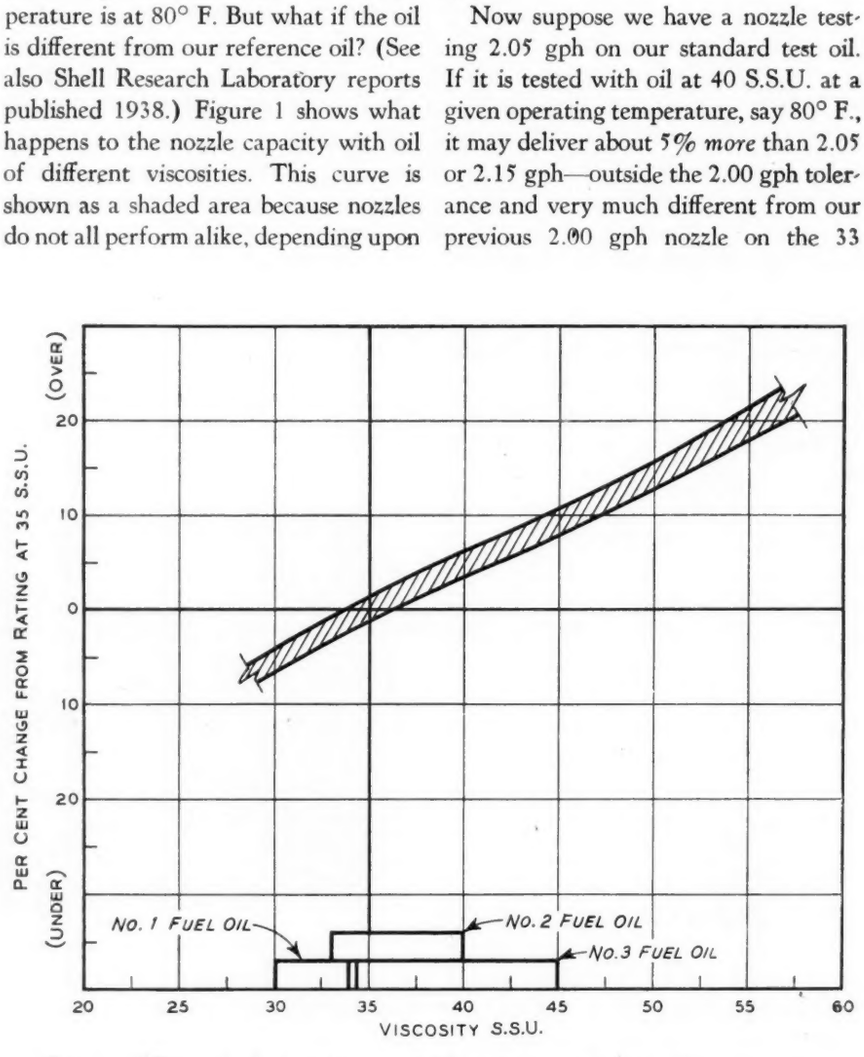


Fig. 1—*Effect of oil viscosity on nozzle output at constant line pressure.*

*Chief Engineer, Nozzle Division, Delavan Engineering Co., Des Moines, Ia.

S.S.U. oil. If this burner starts on oil at a temperature of 50° F., the oil is even more viscous (see Figure 2), probably 45 S.S.U., and the nozzle then delivers nearly 2.2 gph, still farther outside the 2.00 gph tolerance. In this case, however, as the nozzle warms up during operation and the oil flowing through it also warms up, the flow rate will come

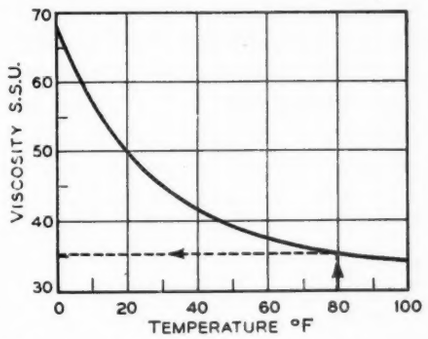


Fig. 2—*Change in viscosity with temperature change (typical fueloil).*

back to normal. This phenomenon can be observed in the fire on most jobs.

So far, pressure has been assumed to be 100 psi. The curve in Figure 3 shows the capacity change that can be expected with change in line pressure. This is a theoretical calibration curve, differing slightly from actual performance because of fluid friction and other factors introduced by nozzle construction.

The reader may begin to wonder why bother with calibration at all! Please note that these two cases referred to above are extremes, selected to illustrate a point. They *could* happen, and do, but probably not on two consecutive jobs and certainly should not in a testing laboratory. In many cases nozzles are tested in burner laboratories on oil as supplied by the oil company and no attempt is made to control its properties. In those cases the capacities of nozzles cannot possibly be exactly the same as shown by the nozzle manufacturer, but may probably be within the 5% tolerance. The manufacturers of nozzles are also subject to these same variables. They have long recognized the need for rigid control of the test oil and test procedure and take precautions accordingly. For example, they know that even expensive pressure gages vary in their calibration during use, and it is necessary to check them frequently against an absolute standard. All other instruments must also be maintained accurately. They know that the properties of the test oil must be maintained at constant values. That calls for "oil conditioning," that is, temperature and viscosity control, and requires a constant watch on the oils purchased for testing. It also requires cleanliness of the test oil and all the surroundings and equipment. Test personnel are carefully selected and trained in order that the human errors, to which all human beings are subject, will be at a minimum. These are just a few of the many factors involved in turning out properly rated nozzles.

It has been argued that nozzles should be rated under firing conditions, that is, at temperatures comparable to the operating temperature of the nozzle. This is not practicable for several reasons. No two firing heads operate with the same nozzle temperature, and smaller nozzles generally operate at higher temperatures than do the larger ones. For normal use, then it appears that present *test standards* are adequate for practical purposes.

Since the capacities of nozzles are subject to changes in oil temperature, viscosity and pressure in the field, it appears that *exact* ratings are not essential except for laboratory reference. *Uniform* ratings, that is, ratings within specified limits under stated controlled conditions are highly desirable and are practicable. It is logical that nozzle manufacturers should be expected to supply that kind of nozzles. Nozzle manufacturers who maintain high standards of excellence in their testing do so because they know the value of uniform ratings. If errors in rating are added to variations in field conditions, the total variation will be even greater. Uniform ratings are essential.

The suggestion has been made frequently that a field nozzle test method be recommended. It should be evident from the above that it would be difficult to duplicate the test conditions of all or any one of the nozzle manufacturers. The comparison method seems to be the most logical. The indications are, however, that it may not be practical to compare capacities of all different makes of nozzles because of differences in test oil specifications, but it is practical to compare ratings from one manufacturer *if the properties of the test oil are maintained throughout the test.* The other method, which is sometimes useful but not too accurate unless very carefully done, is to time the flow of a given quantity of oil from the nozzle. In this method also it is necessary to know and maintain the properties of the test oil if accurate results are to be expected.

Atomizing

The term "atomizing" does not mean breaking up into atoms. It has come to mean breaking the oil up into very small droplets so as to expose the maximum possible surface of oil to the air and to the heat required to turn it into gas. Some European engineers have used the term "pulverize," which is probably more nearly correct, although we use the word in connection with dry powders. The correct word is "comminution" but it will probably never replace

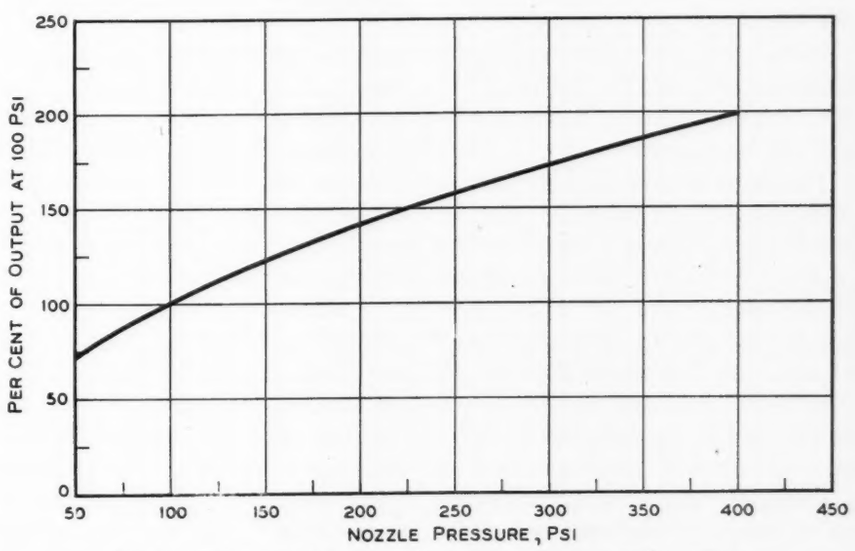


Fig. 3—*Effect of changes in line pressure on nozzle output.*

"atomization" in the language of oil-heating.

The droplet size in a spray, or the "fineness of atomization" is extremely important in the performance of a nozzle, but at the present time as far as the user is concerned, droplet size does not enter into the calibration of a nozzle. Unfortunately there is, as yet, no convenient method of measuring the size of droplets in a spray, and until there is, droplet size will probably not be indicated in the numbers that designate nozzle rating. It is known, however, that in

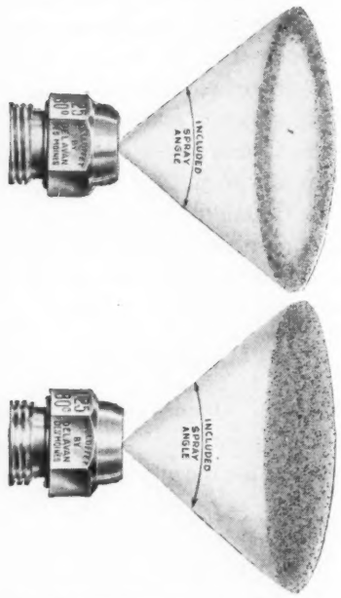


Fig. 4—*Spray patterns are hollow cone (top) or full cone.*

a good 1.00 gph nozzle, spraying a good No. 2 fuel oil at room temperature, the mass median droplet diameter is about 50 to 60 microns or a little over .002 inch. The smallest are about .0002 inch. The droplet size in a spray increases with lower nozzle pressure and also with higher viscosity oil. The droplet size in narrow sprays is usually greater than in the wider spray angles.

Nozzle calibration does have to do with atomization, however, in that the spray pattern must be indicated. The designation of spray pattern or type of spray is becoming more and more important with the increased emphasis on burner firing head design. Engineers all over the country have developed new and efficient burners in a variety of designs. Their object has been to produce a device for mixing air with the atomized oil so that high efficiency and stable, quiet operation are assured. Different engineers have independently arrived at designs which are similar in some respects. Some designs are radically different. Some designs require a "full cone" nozzle spray for most efficient and quiet operation. Others must have a "hollow cone" spray for best results. The type of oil spray required is determined by the air delivery from the burner. Air and oil must be present in the proper proportions for combustion throughout the spray, and therefore the air spray and oil spray must coincide, approximately. In some burners the wrong type of nozzle spray may result in smoky or noisy operation. It is important to know the burner manufacturer's specifications in such case and to follow them.

In some of the older designs of burners, with no particular air delivery pattern, either a full cone or hollow cone spray may give satisfactory performance. In some cases it may be possible to reduce noise and pulsation by changing to one type or the other.

For those not familiar with the two types of sprays, Figure 4 will illustrate. It will be noted that in a pure hollow cone spray the oil droplets will impinge on a plate, held about 2" in front of the nozzle, near the outer edge of the circle. There will be no droplets striking in the center. In a full cone spray the droplets impinge over the entire area of the circle. Then there is the spray pattern between these two, known as the relatively hollow cone or the light center spray, which is more common than the completely hollow cone.

The angle of spray is very important in some jobs, depending upon burner and furnace design. Some burners are quite sensitive to changes in spray angle, which makes it necessary to control that as well as the flow rate. The spray angle is affected by changes in oil temperature and viscosity to an extent as important as is the flow rate. In general, the higher the viscosity, the narrower will be the spray angle. For example, a nozzle with a spray angle of 80° with 35 S.S.U. oil may be only 65° with 45 S.S.U. oil. This depends a great deal upon nozzle design and no fixed rule can be applied to all nozzles. After a stable spray is established, there is little or no change in spray angle with pressure increase within customary limits.

Various methods of measuring the spray angle may show different values for the same nozzle. There is no point in arguing the best method of testing, and the consensus of opinion seems to be that a tolerance of plus or minus 5 degrees is satisfactory in most cases. It should be noted that the spray angle is not the widest angle at which any spray occurs in still air. By the very nature of a spray there will be some stray droplets outside the spray proper. In some cases droplets have been observed outside of 130° with an 80° nozzle. The air from the burner seems to blow these smaller droplets back into the spray and the net result is an 80° fire. It is possible to make nozzles with a very sharply defined spray angle in the first three inches of the spray, but this usually occurs in the larger flow rates.

Nozzles are being used for an ever increasing number of applications, for spraying such liquids as kerosene, gasoline, and all grades of fuel oil in many kinds of burning devices. This makes it necessary on other than standard burner use to specify the liquid to be sprayed and all the other conditions involved, rather than assume that a 2.00 gph nozzle is a 2.00 gph nozzle on any application. Even in the case of fueloils there are differences in properties that must be recognized. For several years the major oil companies have supplied No. 2 oils with an average viscosity of about 35 S.S.U. or less at 100° F., except in the west coast states. In those and adjoining states the oil used in domestic burners generally has higher viscosity, usually above 40 S.S.U. at 100° F. and in some known instances, as high as 46 S.S.U. at 100°. The present short supply has introduced some extreme variations in oil.

The viscosity of No. 2 catalytic fuel is not a great deal different from that of any other No. 2 fueloil, but the gravity is usually quite different. Consequently, the nozzle flow rate in *gph* will follow the same viscosity curve as with other oils. The *weight* rate of flow and the *BTU input* to the furnace will be *greater* than with other oils because the API gravity is lower.

It would be wonderful if fueloils were as uniform as present day gasolines, but such close control is probably not necessary for all practical purposes and will probably never come.

Oil-O-Matic Survey Shows Oil-Saving Possibilities

FIFTY MEMBERS of Oil-O-Matic's field and factory force made an intensive one-day canvass of 200 oilheated homes January 16, in Champaign, Urbana and Rantoul, Ill., in a "guinea pig" survey of typical operating characteristics and practice. Armed with what newspapers called "a Buck Rogers gadget," surveyors made combustion tests and gathered other information to fill a six-page survey form.

Surveys were made by members of Oil-O-Matic's field sales and engineering staff, factory sales executives, key dealers and even visiting writers and photographers. Results, according to W. A. Matheson, Executive vice-president of Eureka Williams Corporation, who led the survey, indicate that more than the estimated 15% needed to ease the fueloil shortage can be saved if oil-burner owners are taught to operate their heating plants economically. The Champaign test was preliminary to a nation-wide Fuel Oil Conservation Engineering Program.

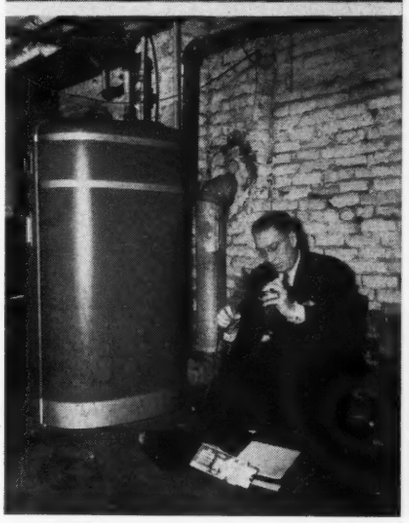
In 87% of the homes surveyed the heating plants were operating below the efficiency standard usually required by FHA—a minimum of 8% CO_2 and not more than 600° stack. In many cases only minor adjustments are needed to correct the relatively low efficiency. In other cases more extensive repairs should be made to increase operating efficiency.

Thirty-six per cent of the homes covered maintained temperatures above 70° during the day. Less than a half turn temperatures down at night, and only 3½% had clock thermostats to make temperature settings automatic. The average turn-down at night was only 4° among those who practiced lower night settings.

Only 20% of the homes were completely weather stripped, and less than half of them had storm sash. The company estimates that weatherstripping will save 10% to 15%, and storm sash will save 16 gallons of oil per window treated, or 15% to 20% for the house.

Slightly more than half the homes had any insulation, and most of these had attic-type insulation only. Seventy-five percent had no wall insulation, which is estimated to save 10% to 15% of the fuel bill and increase comfort.

Revealing, too, were the number of requests for accessory equipment which homeowners made of the surveyors. No attempt was made to sell or recommend any equipment during the period of the one-day check-up. The men covered oil users as fast as possible from lists previously prepared by a check of fill pipes in the cities. Owners volunteered information on equipment which they felt they needed.



Top: W. A. Matheson (center) demonstrates combustion testing instrument to Mayor George F. Hurd, Urbana (left) and Mayor George Babb, Champaign. Bottom: John H. Skaggs, Oil-O-Matic Middle Atlantic Divisional Manager, is shown making stack test with instruments each Oil-O-Matic dealer will use in making oil loss surveys.

The survey was publicized in the newspapers the night before the test was made. The phones in the headquarters hotel began to ring about 7:00 a.m. with requests for surveys from oil users who wanted to be sure to be included.

Complete results of the survey will be released to Oil-O-Matic dealers across the country with plans for similar checks in their home cities.

"I believe the Champaign findings will be average for the United States," Matheson said, "and we have not taken into account all the personal habits of householders. We can't figure the heat loss through the opening of outside doors by large families, or the practice of cooling off warm homes by opening windows and doors.

"It's the duty of the oilheating industry and the oil industry to help correct this condition through cooperation and education. The public, as we found in Champaign and Urbana, will cooperate. Eighty percent of the people who answered the door invited our men in to make surveys. This is tremendous evidence of the public's desire to be helpful. After all, householders are not only saving vitally needed fueloil—but they are saving their own money."

Organize Public Relations Program for Another Year

RALPH CHAMPLIN of Ethyl Corporation was elected chairman of the committee which will direct the oil industry's public relations program for the second year. The program was organized February 3 at New York, and the name was changed to the Oil Industry Information Committee from the former Public Relations Operating Committee. Mr. Champlin succeeds Franklyn Waltman of Sun Oil who headed the committee during most of its first year of operation.

Vice-chairmen have been selected on a functional basis instead of a regional basis as last year. They are H. L. Curtis, Shell, in charge of advertising; W. R. Huber, Gulf, in charge of the supply-demand conservation program; George Freyermuth, Standard N. J., for general publicity, and Conger Reynolds, Standard Ind., in charge of industry relations.

Since December the committee has worked to promote fueloil savings and to explain the supply situation. This work will continue in affected areas.

Who Should Be Responsible for

It Is the Manufacturers' Job

They Made the Equipment and Must Back Up the User

Says
L. A. Schultz

BEFORE LAUNCHING into a discussion of the ills of our business, I want to make it clear that I have no prejudices and no ill feeling that would drive me to write this. It is intended as constructive criticism, though I expect that some members of our industry will dismiss these thoughts with the profound observation, "The guy is nuts!"

Since 1929, in common with many others now in the oilheating business, I have studied each sales and mechanical job I have had, and have tried to learn the business thoroughly, believing that any industry that served the public welfare so well (potentially, at least) would be one with which I wanted to be permanently associated.

In the late 20s and early 30s we were struggling to convince the American public that oilheating provided an automatic, carefree type of heating, minus the dirt and drudgery of solid fuel. In those days oilburners had to be sold. Each burner manufacturer tried conscientiously to build a good oilburner, and to see that it was properly installed, believing that each successful job would bring more customers. Manufacturers furnished manuals and helps to encourage dealers to do the best possible job within the limits of our knowledge at that time. All of us worked and wondered if we ever would live to see the day when oilheating was thoroughly accepted. We wondered if we ever would experience a volume in proportion to our efforts. A good dealer then was selling 25 burners a year. An outfit doing 100 installations a year was sure enough big time.

As the years advanced, and sales increased, we attracted men who saw a chance to grab some quick money out of oilheating. These get-rich-quick fellows had no ethics. They had no desire to build a better burner, or to do a better job for the customer, but only to get as much volume and as much money as possible, and as quickly as possible. The public and the industry go hang! Some installers looked favorably on this type of operation. Others proved to be true representatives of the older oilheating business by steadfastly insisting on efficient installations that would gain and maintain the good-will and prestige of the public.

Cheap Fuel Encouraged Laxness

While lax practices existed, it did not seem—prior to World War II—too much of a curse, since fueloil was plentiful and cheap. Though oil cost only half its present price, the coming of the war brought the necessity for fuel economy. Rationing made necessary economical use of a hard-to-get product, regardless of cost. We had to stretch each gallon to the utmost. Dealers of the old type—those with a conscience—learned the weaknesses in some types of installations, and learned how to improve combustion and how to utilize heat more effectively.

The shake-up brought on by the war ushered in a number of advances in oilburning. Most of us expected manufacturers in that era to use that time to improve their products and their installation techniques. What happened? At the end of the war we got the same old burners with the same mistakes built in. Instead of new helps and better education, we got urged to get sales into high gear. More sales. More money.

Today we are getting the same old stuff we got during the war. Articles in the papers advise the dealer to sell the idea to the public of checking burner installations with gas analyzers, draft gauges, flue thermometers, smoke indicators and all the instruments in the kit. The idea is that such a going-over may show the unlucky soul who is burning too much oil how he may save a little to help the country. Have any of these writers ever approached the little fellow who invested to his limit to enjoy the heralded wonders of oilheating? Have they ever faced a man after his several hundred dollar investment in a poor burner has crushed his dream of economical comfort from oilheating into an ogre of high fuel bills? Could he convince the owner that he is the knight in shining armor who can end this nightmare if the owner installs a new boiler or replaces his burner for only a few hundred more dollars? If he can face the owner without feeling like a heel, then he has more nerve than I have. It goes against my grain to admit to a trapped victim that the field of my endeavor is studded with incompetent and unreliable gougers who burden a man with added expense to get what he thought he paid for in the first place.

The bulk of inefficient oilburner in-

(*Continued on page* 72)

Customer's Oilheating Efficiency?

It Is Up to the Dealer

Satisfactory Operation Is a Local Maintenance Job

Says

A. E. Coburn

CHARGES THAT OILBURNER manufacturers should be responsible for every installation are not new. In one form or another dealers have been demanding more and more from manufacturers since the start of the industry. Twenty years ago it was claimed that service charges were so high that the manufacturer should be responsible for keeping his equipment operating. Prewar dealers frequently charged that the job of creating sales should be the sole job of the manufacturer, and now there is the cry that manufacturers should shoulder the responsibility of putting each one of their burners in top operating form. It never is made quite clear what dealers are supposed to be doing while the manufacturers perform the essential functions of the industry.

This is not a defense of manufacturers as a class. Mainly it is a plea for sanity in the emotional harangues that too often are aired wherever dealers talk shop. Manufacturers as a whole have done little enough for the industry, but they have done all the dealers would take. In fact, most responsible manufacturers are anxious to do more than most dealers are willing to accept. The chief problem in most plants is not to find more money for advertising, literature, service training and similar dealer helps. The problem is to get dealers to use the material that is available for them, and to get dealers to participate in proven procedures that will help them to be better and more effective oilheating men.

With few exceptions manufacturers are conscious of the stake they have in this business. They are anxious to invest in it for the sake of building good will, and preserving the market through greater customer satisfaction. The fact that they expect to make money, and make greater sales by serving the public better is not too reprehensible, since making money is one of the accepted reasons for doing business. Generally, the one who makes the most money from a transaction should be responsible for the greater share of the success that the equipment gives. Certainly, in a free economy, there is no reason why anyone should continue to handle unsatisfactory equipment.

To keep the record straight, let's see who gets what out of an oilburner sale. According to published figures supplied by dealers (page 94, January, 1948) the average price of a domestic conversion burner in 1941 was $250. Of this total the dealer paid $81 for the burner, or 32.4% of the installed price. The dealer then paid $95 for labor to install and for other materials, or 38.0% and had $74, or 29.6% of the price for sales expense, overhead and profit. In 1947 the sale price of the conversion burner had jumped to $392, or which the burner cost $125 or 31.9%. Labor and other materials had increased to $150, but still were only 38.3% of the sale price, and sales expense and profit took $117, or 29.8%.

Manufacturer Doesn't Get All

It should be pointed out that 19% of the burners used last year were bought from distributors and supply houses, so the manufacturer did not get the whole $125 that the average burner cost the dealer. Even so, the oilburner last year represented less of the total price than it did in 1941, while labor, materials, overhead and profit each took larger slices of the sale price. In short, the manufacturer has less in each job today than he had in 1941. Burners have increased in price 54.3% since 1941, but dealer overhead and profit are up 58.1%. It can hardly be argued that sales expense was a major factor of cost in 1947. And lest anyone get the wrong idea, labor on a conversion installation last year was 11.3% of the price, compared with 12.8% in 1941.

All old hands in the business remember "the good old days" but not all would want to return to them if it were possible. Few would contend that burners were better then than now. All remember some very poor installations that were made in the early days, and the fact that all of them have not been eliminated today can hardly be charged totally to today's laxity. Where are the dealers who installed those jobs? They had a greater dollar interest in the installation than the manufacturer.

It has been suggested that manufacturers should survey every one of their installations to be sure they are operating efficiently. There is no doubt that such a project would be excellent promotion, and the best of public relations, but obviously it cannot be done. If we assume that 80% of the burners sold are made by 20% of the manufacturers, then 70 manufacturers would be responsible for 2,800,000 inspections, or 40,000 each. Such a job obviously is beyond the capacity of any manufacturer. The same effect now is being attempted through dealers who can very well handle the job, help the user and enhance his own prestige in the community. It will be interesting to see how generally the help offered by the manufacturers will be accepted and used.

There can be little defense offered for those manufacturers who have skillfully avoided any responsibility for their burners, even to the extent of refusing to supply repair parts. Such manufacturers have contributed nothing to the development of the market or to the reputation of oilheating with the public. It must be admitted, however, that they have been successful in attaining an amazing volume of sales, and those sales

were not made to consumers direct. Without dealers to sell the equipment and to install it, they never would have gained such volume. Dealers can hardly curse a manufacturer with good grace for supplying the equipment they have continued to buy in such quantities. While dealers were selling and installing burners which now are being criticized, there were plenty of other manufacturers who were offering much better equipment, and begging dealers to use it.

It is futile to accuse manufacturers for making equipment to be installed in the face of a threatened fueloil shortage. The suggestion was made last summer that the responsible manufacturers limit their production to discourage oilheating installations. Such a combination to limit production probably would have made every cooperating manufacturer liable under the anti-trust laws, and would have accomplished nothing. The less responsible manufacturers simply would have made more burners to meet the demand, and new manufacturers would have been encouraged to enter the field. The net result would have been an equal number of installations of equipment that probably would not have been of equal quality.

Manufacturers have made mistakes. They have allowed burners to be sold to the public that were not properly developed, and did not operate properly. In this regard oilburner manufacturers are not different from other manufacturers. Various models of automobiles, refrigerators and pencil sharpeners have been offered before they would deliver complete satisfaction, and oilburners are no exception. It is not possible to protect the public from its own mistakes. Every manufacturer and dealer who ever lost a sale will swear that he was trying to protect the prospect against a mistake.

In a free economy there is no way to police the number or quality of people who enter a business, or to regulate their business morals. Attempts have been made in the oilheating business to weed out the incompetents by licensing installers, but there is no noticeable improvement in the quality of installations. Too few dealers, either with or without a license, consistently do as good work as their capabilities permit. Too few have the courage to refuse a job that they believe will be substandard. Too often they take the job and hope for a miracle.

Most manufacturers want the best dealer in town to handle their equipment, believing that the best installation possible is the only one that will do justice to their equipment. Manufacturers who lose control of the installation by distributing through supply houses obviously are trusting to luck that the installation will be passable. This may be questionable practice, but it is far from illegal.

In view of the fact that dealers have sole ultimate control over the installation of oilheating equipment, the selection of the equipment they install, and have the largest slice of the profit from the sale, it seems reasonable that dealers should be responsible for maintaining oilheating equipment at its best operating efficiency. It is obvious that manufacturers cannot do the job, and they should not be expected to do it.

It's the Manufacturers' Job

(*Continued from page 70*)

stallations can be laid at the doorstep of the oilburner manufacturers. It is primarily their responsibility and not the dealers' for the oil-hog installations. They build the tool. It is their duty to see that the tool is beneficial in its results, not detrimental.

Did the manufacturers try to ease an oil shortage that was predicted months ago by insisting on better installations or curtailing sales? If so, I never heard of it. They continued to sell thousands of burners monthly with little heed of what was ahead. The old dollar sign loomed big, and the race for volume proceeded at a tremendous pace. Little did they care how burners were installed, how much oil they would burn, or how satisfactory would be the experience of the owners.

In other years the better class manufacturers had field men who tried to run down oil-hog complaints, and who attempted to make each dealer do a good job. Since the war the demand for oilburners has been so great that many of the old and most of the new manufacturers figured they were throwing away money to maintain experienced field men. If orders did not pour in, anyone could go out and gather in a few. It was up to the installer, whether experienced or not, to know how to make a good installation. After all, the manufacturer only built the burner; why should he be bothered with how much oil the customer burned? Many of these makers have jumped into the business in the last few years and are not qualified oilburner men. They don't know how to make an efficient oilburner. They are merely assemblers of parts, claiming to be manufacturers for the sake of grabbing a quick dollar.

Incomplete Burners Shipped

Imagine the automobile firms shipping a car less motor, wheels or what-have-you to the dealer. Yet a year ago burners left factories without motors, transformers, controls and sometimes pump units. I have seen shipments arrive from well known makers with only a casting, nozzle assembly and pump unit in the crate! How in the world could you expect some of the monkeys calling themselves burner men, to give a purchaser an efficient job and his money's worth with this kind of a deal. "Get yours" was the feeling; nuts to the Customer.

Who said, "Save Oil"?

How many manufacturers today supply their dealers with good installation manuals? How many advise them what boilers and furnaces are not suitable for conversion to oil due to their undesirable construction? How many manufacturers take the interest and time to investigate the installing dealer to know that he understands his business? How many manufacturers since the war have taken the trouble to inquire from the owner if the installation is producing satisfactory results? I'll wager I could count on my two hands the number that can truthfully verify their interest along these lines. One major manufacturer's interest in his completed product is so low that he refuses to make a replacement of a defective part once the burner leaves his plant. The question put to a new dealer is usually "How many can you sell" not "How good an installation can you make."

In their race for volume, manufac-

turers have been sold a bill of goods by the so-called plumbing supply house. They have moved a whale of a lot of burners because of their unethical, hypocritical demand on "tie-in" sales. I believe the plumbing supply house is a necessary part of the system in the handling of certain goods between the manufacturer and the dealer. I do not think that an oilburner can be classified as one of these goods unless the supply house or jobber sets himself up with a special department for the sale of oil-heating equipment headed by men who know the business, and who will religiously see to it that each oilburner installation is a credit to the industry. The manufacturer selling through supply houses feels no engineering assistance is necessary and besides can insist on the jobber being properly set-up and qualified. The jobber wants a long cut out of the deal so why shouldn't he either get into the swim right or get out.

Even legitimate dealers often are held up by these money-mad sharpers, and are forced to take the burner and boiler they are selling in order to get the more scarce items. The manufacturer who sells his burners through these channels without knowing that every one of his units is delivering the best results is an enemy to all who are interested in the future of our industry. He is stooping to an all-time low in recognizing and condoning such practices. One well known manufacturer told me he intended to follow the policy of selling to wholesalers since it was the only quick means of getting volume and making money. There was no other consideration but volume and money.

An installer can put a gun burner in a pot stove or other equally inefficient vessel and get away with it if the purchaser is ignorant enough and sucker enough to pay the bill. He can leave the job, outside of certain areas having strict codes, without a draft control, combustion chamber floor, or many, many other essential details that make a proper oilburner installation, and not a word or a finger is raised by the industry to check it.

Then, too, a boiler or furnace manufacturer can market a product for oilburning (dressed up in a fancy jacket) that is grossly inefficient, over-rated and of poor construction. Any competent man would know the unit would waste oil, but no question is raised by the industry. The average purchaser believes the man selling boilers and burners is a competent and skilled heating and oilburner man, and falls innocently into the hands of these fakers.

All the while this blundering goes on, some arm chair smart boy writes an article on how to save oil, ignoring the facts that have to be faced if we are truly to save oil. These chaps tell you to call a doctor after the customer has taken poison instead of warning him against taking it in the first place.

Why can't the oil and oilburner industries sit down in an honest effort to clean up these glaring faults, thus saving millions of gallons of fueloil annually. Has the business ethics and sincerity of the industry degenerated to a point where only dollar profits mean anything?

I am of the firm belief that no manufacturer, distributor or dealer should be recognized as legitimate who does not do all possible to see that every oilburner installation is a credit to the industry and not a black eye. The forgotten man in today's deal is the owner who is expected to recommend oilheating to his friends and neighbors.

All of us know of installations that are wasting oil every day they operate. It is entirely possible for practically every burner installation to be checked by a qualified representative of the oilburner manufacturer to be certain that the dealer does a good job. It is possible for millions of gallons of fueloil to be saved by intelligent handling of this situation by the manufacturer.

Cut in Canada Oil Supply "Calamity," Officials Say

A THREATENED United States export embargo on petroleum products would be a national calamity for Canada, Rt. Hon. C. D. Howe, Minister of Trade and Commerce, stated in the Canadian House of Commons and he said the Dominion was doing all she could to avert it.

Canada now can produce only 11 per cent of her oil requirements, Mr. Howe declared, and if the huge flow from below the border were cut off, it would be "a calamity of the first order."

Mr. Howe made his brief warning statement to the House as the U. S. Senate considered a bill that would ban all U. S. exports of petroleum products for a year to conserve that nation's diminishing stocks.

Mr. Howe, who has charge both of Canada's imports and of responsibility for providing the fuel to keep the country's industrial machine turning—did not hazard a guess as to the likelihood of the ban applying specifically to Canada in the event it should receive Congressional passage.

However, other government officials were known to be hopeful that any U. S. action would take into account Canada's integration of natural resources with the U. S. under the Hyde Park agreement, and her position as a major supplier of the raw materials of American production.

Mr. Howe disclosed that Canada has been concerned for some time with the possibility now developing in U. S. Congress and he indicated her recent voluntary action to cut fuel oil imports from the United States was a move to forestall just this kind of action.

The cut for the month of January, he said, amounted to half the imports of the same month in 1947. Corresponding cuts were being studied for February and March.

Other measures taken by Canada, said Mr. Howe, included frequent conferences between Ambassador Hume Wrong of Canada and Washington officials; full disclosure of Canada's petroleum stock position; and an explanation of the government's limitation of oilburner installation through 1947.

Officials of the United States Department of Commerce also had visited Canada to study the position. The Government now had gone about as far as it could go, Mr. Howe indicated.

From all countries, Canada imported petroleum products of the value of $123,000,000 in 1946. Of this amount, $88,500,000 worth came from the United States.

But last year, in the 11 months for which figures have been published, the Dominion drew $132,000,000 worth from the United States alone, that is more than she imported in all 1946 from the whole world.

Adjust For Instant Ignition

fueloil & oil heat
Short Short Article
on Burner Service

EXACTLY HOW FAR should the spark tips be clear of the oil spray?

Please, more data on quick ignition?

The "Short-Short" item on p. 132 of the January issue of FUELOIL & OIL HEAT caused readers to ask such questions.

First, this is different for different burners, but generally the spark points should be clear of the oil spray by 1/4". Check this on a trouble job. Spray oil from the nozzle into a can or pan with the gun tube assembly out of the burner and, of course, with no spark across the points. When in doubt, provide more than 1/4" clearance. Although in almost every pressure burner model the tips properly jut somewhat ahead of the nozzle, field tests prove that some burners light well with the tips flush, in a vertical plane, with the ends of the nozzles. Stretched forward and made hair-pin-shaped by air-flow in the gun tube, the spark lights oil 3/4" and farther ahead of the tips. But don't gear your spark point adjustments to all the spark stretch usually obtainable, for this would not allow for low house voltage weakening the spark at times.

You must use the best flame mirror you can buy to tune certain burners and make certain the spark points and the air-handling parts at the ends of the gun tubes are adjusted properly.

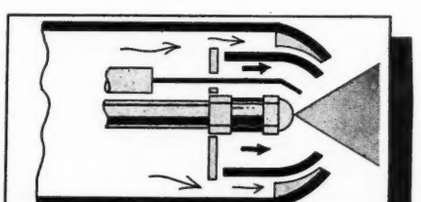
If you are stuck without a flame mirror, this make-shift will help. Disconnect the oil line to the gun tube and arrange to have the oil from the nozzle connection of the fuel unit spill into a can. Start the motor and see the spark in an ordinary glass mirror fastened to a stiff wire and held in the firebox. Use the idea shown in Diag. 2, but with no oil coming from the nozzle.

With a poor connection or a weak contact in the electric lines or controls, the voltage at the ignition transformer may drop so much while the motor is coming up to speed that there is no spark until the motor reaches its normal running speed. That's why on a sick job you should check everything electrical, the fuses, the wiring, all the controls, and the motor and transformer.

Look for a sick motor which draws excessive current for starting. Wire a light bulb to the input terminals of the control panel, start the burner, and find out if for a second or two as the motor comes up to speed the bulb dims.

Use the best in ignition transformers; the spark of a healthy transformer jumps a 1/2" gap in still air.

Check the all-important control panel for a voltage-drop caused by weak contacts and for proper action in case of ignition failure or flame failure.



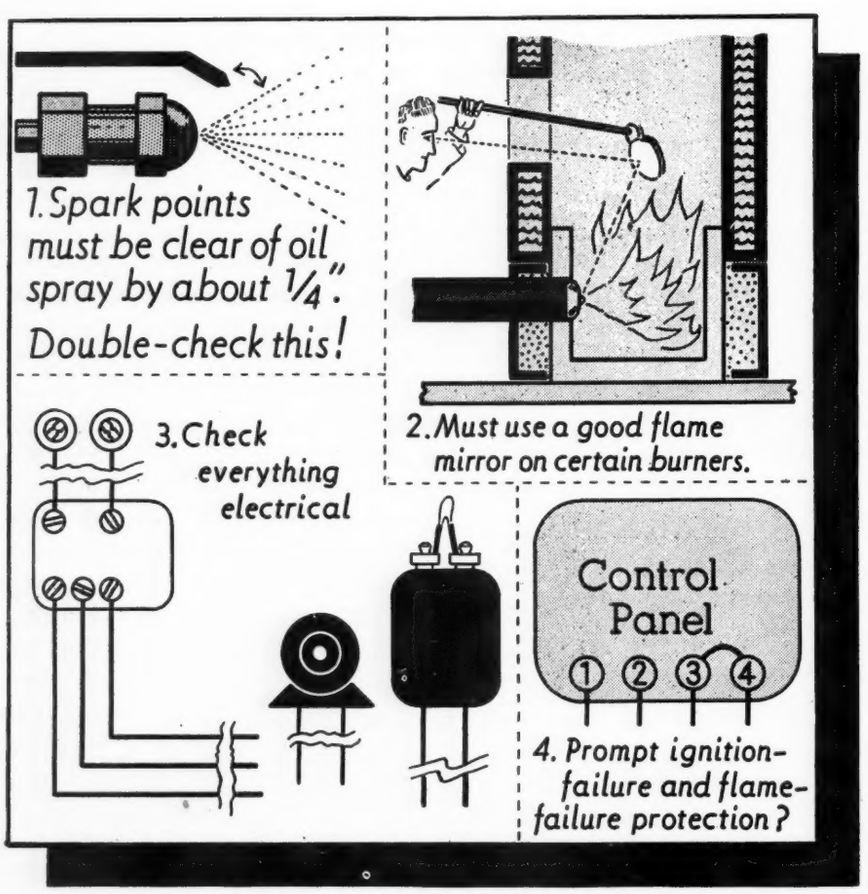
5. With new firing heads for cat fueloils, watch out for three things!

Burner models recently designed for highest efficiencies with cat-cracked fueloils may have closely-crowded air-handling parts in the ends of the gun tubes. *Always* use a flame mirror in tuning these burners. Watch out for three things:

1. Oil striking the air-handling parts close to the oil spray and forming soot and carbon that short-circuits the spark.

2. Insufficient air-flow around the nozzle and spark points causing the oil to burn inside the gun tube or so close to the nozzle as to form carbon. The flow of center-air, shown by heavy black arrows in Diag. 5, must be sufficient to keep the nozzle and tips clean.

3. Short-circuiting of the spark because the tips are too close to metal air cones, air vanes, etc. If possible, reach into the firebox before you start a burner you have just worked on, and make doubly certain the tips are well clear of the air-handling parts in the end of the gun tube.


1. Spark points must be clear of oil spray by about 1/4". Double-check this!
2. Must use a good flame mirror on certain burners.
3. Check everything electrical
Control Panel
1 2 3 4
4. Prompt ignition-failure and flame-failure protection?

LP Gas Information

Useful Data For Oilheating Men Who Might Sell This Fuel

by

Harold D. White*

As THE NAME IMPLIES, Liquefied Petroleum Gas is a product of the petroleum industry, gaseous under normal conditions, liquid under pressure.

Its main source is from the oil and natural gas wells. Secondary sources are found in refining processes and the recycling of natural gas.

As early as 1810, a company in London produced and marketed a few containers of compressed gas. In 1870, a similar product called "pintsch gas" was placed in commercial use and reached considerable popularity in the lighting of railway cars. About 1907, Herman Blau, a German scientist, developed a process for the cracking of oil in a furnace, recovering the gas and liquefying it under a pressure of 1800 pounds p.s.i. Several companies were organized to market it in this country under the name "Blau-Gas," but the fuel was not generally satisfactory and the cost of equipment and transportation presented serious complications.

What was required was a gas which would operate at comparatively low pressures; a gas of standard and uniform chemical composition, available in large quantities, at a reasonable price and one whose transportation posed no unusual obstacles.

These requirements were satisfied by the recovery of the butane and propane gases as a by-product of refining and their liquefaction under pressure.

In 1910, the Riverside Oil Company produced about 200 gallons under the supervision of A. N. Kerr, the general superintendent. Within a year, Mr. Kerr with several associates, formed the American Gas Oil Company to develop utilizing equipment on a commercial scale.

In 1920, Carbide & Carbon Chemical Corporation placed "Pyrofax" on the market. Between 1927 and 1930, six major oil companies entered the field and today, according to the latest reports, 480 plants in 22 states are in production with 40 more under construction or scheduled for construction within the next 18 months. That the pioneers in the industry were correct in their forecast of the demand for a fuel which would meet the requirements of low pressure, uniform composition, general availability, reasonable cost, and easy transportation, is demonstrated by the phenomenal growth the industry has already experienced.

Demand Growth

In 1926, the first year of Bureau of Mines records of the production, 465,000 gallons were marketed. In 1946, sales reached 1,705,282,000 gallons.

The 1946 sales were 34% greater than 1945, and three times the sales of 1941.

The increase in use for peak-shaving and enrichment by city gas utility companies rose from 1,500,000 gallons in 1928 to an estimated 86,660,000 gallons in 1946,—over 5600%.

Domestic or private home utilization reached 766,150,000 gallons in 1946, an increase of 43.7% over 1945. Industrial uses, that is for power, for metal treating, torch operation, enamel baking and the like showed the lowest increase. Consumption reached 159,115,000 gallons in 1946, a slight decrease from 1945. But this is probably due not to the lack of demand for the fuel so much as the shortage of materials required by industry to convert to its use. Sales for chemical purposes, such as the production of buta diene, styrene, butyl rubber, thiokol, carbon blacks, nitro-paraffins, ethylene, cyclopropane, propylenes, butylenes, alcohols and acetones, antifreeze compounds, solvents, thinners, plastics and other synthetics, and a multitude of others in 1946 reached 597,000,000 gallons, an increase of some 83½%.

Agricultural uses are wide and on the increase for hay, cotton, fruit, tobacco drying, and the like; for water pumping, chicken brooding, milk can sterilization; and a very promising development is seen in the development of flame cultivation and weed burning. Future expansion for many years to come is apparently limited only by the limits of fuel supply, transportation and utilizing equipment.

Varieties of LP Gas

Now, let's see what this fuel is. The term Liquefied Petroleum Gas—or LP-Gas, as we call it, is a generic term for propane and butane and propane-butane mixtures. The qualitative standards, as set up by the Natural Gas Association of America, for Liquefied Petroleum Gas are as follows:

1. *Commercial Propane* is a product containing 95% minimum of propane and/or propylene and dehydrated to pass the standard test for dryness. The vapor pressure at 105°F. should not exceed 225 psig. The chemical formula of propane is C_3H_8 and for propylene C_3H_6 and they are usually referred to as C_3 hydrocarbons.

2. *Commercial Butane* is a product composed predominantly of butanes (isobutane or normal butane) and/or butylenes and with a vapor pressure not in excess of 75 psig at 105°F. The chemical formula for iso- and normal butane is C_4H_{10} and for butylenes C_4H_8. They are usually referred to as C_4 hydrocarbons.

3. *Propane-Butane Mixtures* are mixtures of the above. The usual mixtures are those having a vapor pressure at 100°F. of 80 psig (summer grade) and 100 psig (winter grade). The standards mentioned also set up maximum permissible contents of sulfur and also specifications for odorization.

The fuel then, in its gaseous state, resembles natural or manufactured gas except for these two principal differences: in B.T.U. content, LP-Gas ranges from 2,520 to 3,270 per cubic foot as against the average rating of 530 to

*Executive vice-president, Liquefied Petroleum Gas Assn., Chicago, in a talk before National Warm Air Heating & Air Conditioning Assn.

1050 B.T.U. per cubic foot for city gas. The other principal difference is in specific gravity. LP-Gas ranges from 1.5 to 2, while natural and manufactured gas has a specific gravity of less than 1.

In its liquid state, LP-Gas resembles gasoline in the way it is transported, measured and stored with the essential difference that it must be handled under pressure, for it is liquefied under pressure and instantly vaporizes at normal temperatures when the pressure is relieved.

Comparative Properties

Butane liquefies under lower pressure than propane and has a boiling point of approximately 32°F. Propane will vaporize at temperatures a little below 40 below zero F., with the result that it requires a higher pressure to liquefy propane. Propane is, therefore, preferred in colder climates and butane finds its greatest popularity in the temperate zones. However, for fuel uses the two are generally blended with consideration for the area in which it is to be used and 1946 sales show that 42% of the entire sales of LP-Gas was sold as butane-propane mixtures. That is pretty close to the quantity sold for domestic consumption.

Butane and propane then are pressure products and must be handled in pressure vessels. At 70°F., commercial butane has a vapor pressure of approximately 30 lbs. psig while commercial propane has a vapor pressure of approximately 120 lbs. psig. At 100°F., commercial butane has a vapor pressure of approximately 60 lbs. gauge while commercial propane has a vapor pressure of approximately 190 lbs. gauge.

This pressure is proportionably varied, commercially, in ratio to the amounts of butane and propane blended in the product. And, its pressure is one of its principal assets.

Apart from particular uses where vaporizers are practical for greater efficiency, LP-Gas flows from the container through pressure reducing regulators, under its own power. Thus, for the average use, pumps, pressurizing equipment and vaporizers are entirely eliminated.

If the correct fuel is used and the installation standard, LP-Gas will function, economically, safely and efficiently, from its own self-contained system in any climate down to temperatures as low as 40 below zero and at lower temperatures with the addition of simple vaporizing equipment.

For city distributing plants and in some industrial operations where a high flow rate is required or where the fuel is to be mixed with air or injected for enrichment purposes, additional equipment is required. In propane air plants about 50% of the power costs can be saved—slightly less with butane as the percentage of air is greater. But, we have today between 4 and 5 million homes where the cooking, refrigeration, water heating and space heating is all done on a simple system consisting of a fuel container, its safety devices, a pressure regulator and pipe line to the appliances.

This is modern living Beyond The Gas Mains.

Hazards Explored

Now you will want to know something about what hazards are involved in the use of LP-Gas.

A short while ago, an insurance agent called me up for some general information about LP-Gas. He wanted to know —is it poisonous? Will it catch fire? Will it blow up?

It would not take you gentlemen long to guess that we would find it pretty difficult to sell it for fuel if it wouldn't burn. You also know that anything which will burn will explode under proper conditions and some materials will explode under certain conditions which are difficult to burn under others; such as dust and wheat flour for instance.

All LP-Gas sold for fuel is odorized to smell like gas for the detection of leaks, but it is not toxic like manufactured gas. Suffocation would take place in adequate concentration similar to the effect of CO_2 gas, but the inhalation of LP-Gas produces no ill effects. It could only be fatal by the elimination of oxygen.

It will burn, but it has an exceptional feature in the fact that LP-Gas has a very narrow range of flammability; much narrower than natural or manufactured gas or gasoline. The limits of flammability of propane are 2.4% to 9.5%; of butane from 1.9% to 8.5%. Taking into consideration the narrow range of flammability together with the rapid rate of diffusion, LP-Gas leaks are therefore not as hazardous as natural gas leaks.

However, since the product is under pressure, a leak can spill out large quantities of gas in a short space of time. Another feature which must be borne in mind is that LP-Gas is heavier than air. It will settle in low places, run down hill or enter windows lower than its source.

It has, however, a higher dispersal rate than is generally recognized. It will dissipate from low areas and pockets even without the flow of air. In the open air its dispersal rate is rapid.

In consideration of these facts, our industry has developed from its beginning, a close and intimate affiliation with the Interstate Commerce Commission, the Bureau of Explosives, the National Board of Fire Underwriters, Underwriters Laboratories, National Conservation Bureau and many other protective organizations and institutions.

Our containers are built to the codes of the Interstate Commerce Commission, the American Petroleum Institute or the American Society of Mechanical Engineers, for unfired pressure vessels. Our safety devices, regulators, relief valves, excess flow valves and shut-offs are submitted to and approved by the Underwriters Laboratories. Our appliances are laboratory approved. Our standard installations are made according to the regulations of the National Board of Fire Underwriters, Pamphlet 58, the LP-Gas Code.

Engineering Development

We have developed, as an industry, ample engineering ability and adequate experience to comply with all safety requirements. Accidents won't happen, nor hazards be created, if the regulations are followed and approved equipment employed and maintained by competent operators.

There is some loss of life, annually, from overfilling truck tires with air; there is much from water; there is more from ignorance and carelessness. I doubt if we can ever fully stop the man who looks for a gas leak with a match.

But the proper use of LP-Gas is thoroughly safe, like the proper use of any other energy.

This is attested by the fact that our

Comfort is Profitable

Grandma And Her Children Want The House Warm And Clean

SELL THEM CLEAN, RELIABLE OIL HEATERS EQUIPPED WITH "DETROIT" FLOAT VALVES

People old enough to have cleaned up after a smoky, sooty, dusty "base burner" particularly appreciate the comfort of clean, reliable oil heat. Grandma, as well as her children and grandchildren, want the home clean, warm and comfortable.

Sell them the maximum comfort of clean, reliable oil heating devices—"Detroit" Float Valve controlled. The comfort market is profitable.

"Detroit" Float Valves are durable, dependable—provide sure regulation of oil fired space heaters, water heaters, furnaces, and ranges. Temperature compensated, flow is not affected by cold or warm oil.

"DETROIT" CRC-239
FLOAT VALVE

Made in several types for various services. Manual regulation for space heaters, ranges and floor furnaces—tank temperature regulation for water heating—thermostat control for furnaces, space heaters or floor furnaces. Furnace type valves may be had with automatic fan switch

"DETROIT" Float Valves — GUARDIANS OF THE HOME FIRES

2903

DETROIT LUBRICATOR COMPANY

"DETROIT"

General Offices: 5800 TRUMBULL AVENUE, DETROIT 8, MICHIGAN

Division of American Radiator & Standard Sanitary Corporation

Canadian Representatives — RAILWAY AND ENGINEERING SPECIALTIES LIMITED, MONTREAL, TORONTO, WINNIPEG

"Detroit" Heating and Refrigeration Controls • Engine Safety Controls • Float Valves and Oil Burner Accessories • "Detroit" Expansion Valves and Refrigeration Accessories • Stationary and Locomotive Lubricators

industry has grown from nothing, 25 years ago, to its present status, with some 480 producing plants; more than 2500 bulk distributing plants, some 25,000 dealers and 15,000 appliance outlets, with between 4 to 5 million domestic consumers and 348 town distributing plants.

We added about 1,000,000 new customers last year and can do much better this year, and for many years to come, if supplies can be maintained.

What shall we say then on the subject of supply?

As for equipment and appliances, we count on a feeble trickle until steel production is adequate. When that time comes, will there be sufficient fuel?

Except for the past winter, the production of LP-Gas has exceeded demand with a definite oversupply in the warm weather. This is one of the industry's major problems—the problem of the unbalanced demand.

You will remember, in its origin, LP-Gas was purely a by-product. Producers had the choice of selling it for anything they could get or flaring it in the field.

Supply Problem

But as demand grew, production capacities had to be expanded through capital investment. I learn from an address of Mr. George Benz of Phillips Petroleum Company that the investment required to increase production and distribution by 8 carloads of propane per day approximates $2,000,000. The vast expansion made by producers in recent years and now under way has, obviously, long since taken the production out of the By-Product class, and sales now must be related to capital investment.

Since the product is in greatest demand during the heating season, top demand production leaves a summer surplus which cannot be economically stored because of the unreasonable investment in large capacity pressure storage which would lie idle throughout the winter.

Likewise, although there are in excess of 4,000 pressure tank cars, averaging 10,000 gallon capacity, in LP-Gas use, the industry is short by some 1200 cars, at the present time, to meet the demand of winter season transportation. So if the producers would economically store it, there would still be too few cars to deliver it at the peak of the season.

This condition embarrassed us last winter and will again until tank car production can catch up.

A solution is in prospect and has been somewhat approximated by the industry's backing a program to provide larger consumer storage which can be filled from the summer surplus. A great deal has been accomplished along these lines since last winter but I expect that we will experience shortages this winter, nevertheless.

As for fuel potential, it has been estimated that there are, from present sources, some 14,400,000,000 gallons per year available or about ten times the sales of last year. Some of this will be added to production by present expansion programs. The potential itself is expected to be increased by the application of new refining processes and the discovery of new fields.

Our view then is that the imbalance which exists is temporary; that production can keep up with expansion when materials are adequate and that the fuel potential is sufficient for our markets but it is recognized that some of our demands will have to compete with others for the product.

In 1926 propane in tank car lots averaged about 11¢ per gallon f.o.b. group 3. By the end of 1941, the prices had declined to 2½¢ at which level they were frozen by OPA.

Quotations, as currently published, are running, in tank car lots, f.o.b. the refinery, for propane from 4.7¢ to 6.5¢ per gallon, butane from 5¢ to 6.5¢ per gallon.

Butane will generally command a higher price particularly in cold weather for it has an octane rating of nearly 100 and is in demand for blending into motor fuel to increase volatility. It is, therefore, worth the price of motor fuel to the refiner and about twice the volume is used for motor fuel than the whole volume of butane and propane used by the industry.

Chemical requirements also compete with domestic and industrial uses. Synthetic rubber took 268,946,000 gallons of butane in 1946, a 48% increase over 1945 and 60% of all the butane sold. Chemicals alone took 185,284,000 gallons, an increase of 75%, and new uses are being found daily.

Agricultural uses are also increasing. Straight butane is in ever-greater demand for motor truck operation. Recently, the first officially observed airplane flight was made on butane which the experimenter said cost him 9¢ per gallon as against "about 37¢ for aviation gasoline."

City gas utilities are also large consumers. Their use of butane for peak-shaving and enrichment totaled 25,682,000 gallons in 1946, an increase of 64%, and of propane 41,199,000, an increase of nearly 100%.

In the overall picture, domestic deliveries of LP-Gas sold for fuel, chemical raw materials and synthetic rubber components increased from 1,276,766,000 gallons in 1945 to 1,705,282,000 in 1946, a gain of 34% as against a 20% gain the year before. Exports rose from 26,058,000 gallons to 49,091,000, an increase of 88%.

The untouched markets in industry, in city enrichment, town plant distribution, in small town and rural communities, the farm, the ranch and in the hundreds of trailer homes in camp and on the highways, give us a prospect which is limited only by the availability of materials, the energy of our worthy competitors, and our ability to promote satisfactory consumer relations.

◈

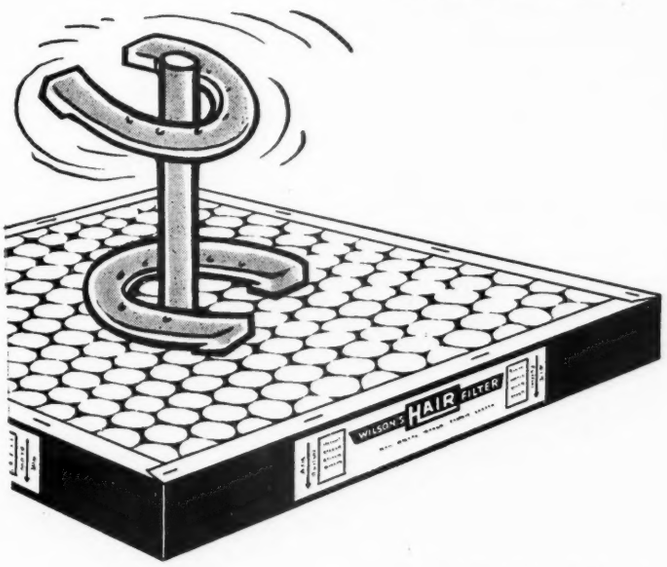
Edward M. Smith, newly appointed manager of the Chicago branch office, Penn Electric Switch Co., Goshen, Ind., succeeds W. W. Lige, resigned. Mr. Smith has been a Penn sales engineer for the past ten years and, during the last two and a half years, was manager of the company's Goshen territory. Previously he had been manager of the Detroit branch office for about five years. Penn's Chicago office will remain at 520 N. Michigan Ave., its present location.

R. L. Minckler has been elected president, General Petroleum Corp., Los Angeles, Cal., succeeding S. J. Dickey, who retired on January 1. R. A. Sperry, senior vice president and a director of the concern retired also on that date.

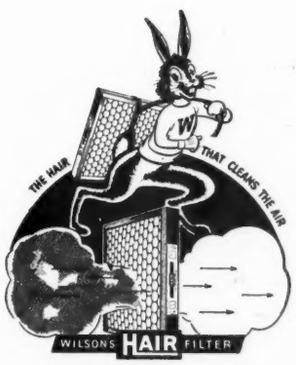
IT'S A RINGER! IT'S A NATURAL!

"You score *every time* when you feature Wilson's H*AIR* Filter. Hair is a natural filtering medium. You just can't beat natural hair when it comes to the *best job* of filtering air."

Herbert the Hare



Building and home owners everywhere are demanding Wilson's H*AIR* filters. They are rapidly learning what an outstanding job this amazing "Mother Nature's Filter" is doing. No hard, non-absorbent, man-made material can compare with hair and its natural attraction for oil. Only Wilson's Natural H*AIR* Filter can give your customers *double filtering action . . . greater dust holding capacity.* Cash in on this big profit-maker NOW! Send for your free sample and our generous sales proposition TODAY!



WILSON & CO. INC.

· Wilson & Co., Inc. (Air Filter Division)
4100 So. Ashland Ave., Chicago 9, Ill.

MEMBER INDOOR COMFORT

Western States Representatives:—HAROLD WINNINGHAM & COMPANY • SEATTLE • SAN FRANCISCO • LOS ANGELES • SALT LAKE CITY • DENVER • EL PASO

WILSON'S HAIR FILTER

fueloil & oil heat

Additional Oilheating Standards Proposed

DURING RECENT MONTHS there has been considerable discussion in oilheating industry circles, and particularly among two or three Government agencies in Washington about the desirability of enlarging the breadth of oilheating standards. There is talk of developing a commercial standard for oilfired boilers and for oilfired furnaces. At present the industry has two commercial standards, one relating to oilburners and the other having to do with warm-air furnaces designed for vaporizing pot-type burners.

Government agencies concerned with housing have been unhappy over the number of oilburners now on the market that do not bear commercial standards label CS-75, or pot-type furnaces on which they don't see the label CS-104. In a recent inquiry by the Oil-Heat Institute addressed to Underwriters' Laboratories, inquiring about compliance with commercial standards, the reply stated that while a majority of oilburner manufacturers were still having their burners tested for CS-75 identification, quite a number were not having such tests made.

Some Ignore CS-75

There were a good many new oilburner manufacturers who came in the industry during the lush period immediately following the war, when it was possible to sell any oilburner that would operate; and while these manufacturers had to get Underwriters listing for local ordinances purposes, some of them had little or no interest in commercial standards labels, which are a quality identification.

Commercial standard CS-75 was originally established in the late 30's at a time when sharp competition between oilburner sales organizations was causing a serious deterioration, not only in the quality of some of the equipment being offered, but also in its installation. The manufacture of burners to carry the CS-75 label has always been more exacting than has installation in compliance with that section of the standards. Just how installations can be spot-checked as a practical matter is a point that needs study, but it is significant that the Federal Housing Administration is becoming quite dissatisfied with inadequate type of installations on some new-home work. FHA can be expected to push for better compliance.

The original idea behind the development of CS-75 was of course better quality burners and installations, but it also was important in that it provided a fair basis of competition within the oilheating industry, particularly on new home work. With the exception of the immediate period, when fueloil supply is occupying much of the industry's attention, it is safe to say that our principal concern over the next few years will be gas competition. Thus, it is important that installations be as good as possible for competitive fuel reasons, not to mention the fact that the price of oil will unquestionably remain higher than before the war.

Gas Standards

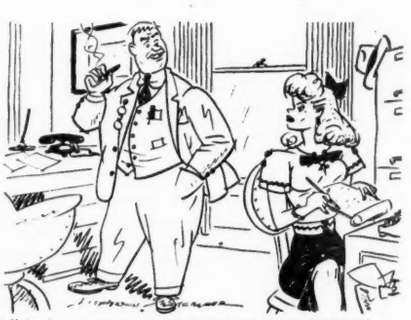
The gas heating industry through the work of the American Gas Association has established standards for all types of gas heating equipment, and a rather effective control of the installation through the utility that supplies the fuel. While it is true that American Gas Association standards leave much to be desired, in the way of control of quality for long life of the equipment, yet they do closely control the operating efficiency and the excellence of installation.

In the present fueloil stringency there are a great many newspaper advertisements, radio broadcasts and general mailings to consumers, urging them to conserve fuel in various ways, one of which is that they be sure their heating equipment is getting top efficiency in burning the fuel. If the oilheating industry had gone further down the road of installing according to the CS-75, it would have been helpful now to have this as a yardstick in building public confidence. It is not too good for the industry as a whole to have so many inferences flying about to the effect that oilburners are not efficient. The fact is that they are all more efficient than coal, and some of them are more efficient than gas, and yet it is unquestionably true that the average level could be raised by eight or ten per cent if all jobs were up to commercial standards. The foregoing is typical of the discussions now being heard in several quarters. Look for early recommendations from official sources that additional oilheating standards be promulgated, and that compliance with existing ones be broadened.

800,000 Dwelling Units Completed In 1947

THE PRODUCERS' COUNCIL, INC., Washington 5, D. C., estimated recently that the private building industry completed approximately 800,000 permanent nonfarm dwelling units in 1947 and started an estimated 860,000 units during the year. David S. Miller, president of the Council, a national organization of building products manufacturers, said, "The number of homes completed was 82% above the 1946 total and was the highest since 1926. The 1947 record has been exceeded in only three past years."

Of the 860,000 units started, nearly three-fifths were reported after July 1, the date on which the emergency home building controls were removed. During the last half of the year, the number of starts, according to the Council, was at a rate of almost a million units annually, greater than the 937,000 units achieved in the peak year, 1925. The Council's economists estimate that about 870,000 new houses will be started in 1948, to bring to 2,400,000 the total of new units started in the first three years after the war, compared with 1,100,000 during the same period after World War I.

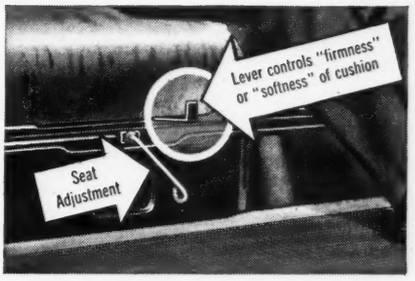


"And no more putting 'P.S. YOU LUCKY STIFFS!!' at the ends of these dividend declarations, Miss Glamm!"

Much That's New...and "Job-Rated", too!

1. More Safety from the All-'Round Vision of New "Pilot-House" Cabs!

Note the tremendously increased *vision* of new Dodge cabs. Windshields and windows are higher and wider. New rear quarter windows are available, adding still more to vision and to safety. You get true "Pilot-House" vision in all directions. They are the safest cabs ever built.

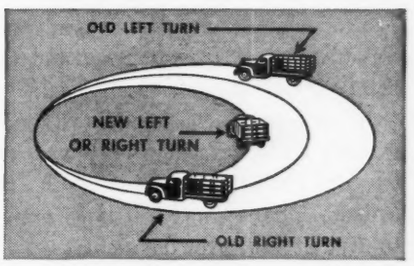


2. More Comfort from New Adjustable "Air-O-Ride" Seats!

"Air-O-Ride" seats give the kind of comfort you want. You may have a "soft" seat . . . or you can ride on a "firm" or "medium" seat. You control cushion "give" by a lever at the bottom of the front seat. Seven full inches of seat adjustment provide the right legroom for every driver.

3. More Safety . . . More Comfort . . . from New All-Weather Ventilation!

Whether the thermometer is ten below or a hundred above—you're *comfortable!* That's because of the availability of an ingenious combination of fresh air intake, newly designed hot water *truck* heater, with powerful fan and defroster tubes, vent windows and cowl ventilator.



4. Easier Handling because of New Chassis Design!

By moving the front axle back, *under* the frame, and moving the engine forward, Dodge has greatly improved maneuverability and weight distribution. Also, a wider front axle tread plus a new type of cross steering permit a full 37° turning angle to left or right.

5. . . . And Your New Dodge Truck will be "Job-Rated," too!

Every unit of your truck . . . from engine to rear axle . . . will be "*Job-Rated*" for economy, dependability, performance, and long life. The 248 basic chassis and body models are engineered and built for gross vehicle weights up to 23,000 lbs., and for gross train weights up to 40,000 lbs.

NEW
DODGE
"Job-Rated"
TRUCKS
FIT THE JOB . . . LAST LONGER

fuel oil & oil heat

OHI To Survey Field On 1948 Business Expectations

INVESTIGATIONS of manufacturers, dealers and consumers to determine the extent of probable oilburner installation volume in 1948 were authorized by directors of Oil Heat Institute of America at the New York meeting of the board on January 13. The surveys are intended to give a complete picture of the industry's market, and the requirements of the manufacturer and dealer levels during the year ahead. It is believed that a reasonably accurate forecast of the new load which the petroleum industry will be expected to supply next heating season should be provided as early as possible in order that plans can be made to meet it.

The consideration of this need arose from the report of the Fueloil Supply Committee, headed by Carl Jonswold. The committee found that a closer cooperation between the oilburner and the petroleum industries seems desirable in order to promote the public welfare. It was felt that forecasts in 1947 were too late to be really effective, and the petroleum industry had too little opportunity to prepare for the increased load.

The committee report, however, did indicate that the petroleum industry in general had operated under a rather short-sighted policy, and had tended to underestimate the demand, but the committee rejected the theory that the present shortages were created willfully as an excuse for increasing prices.

It was urged that no attempt be made to control oilburner installations by voluntary restrictions on burner production and sales, since it was indicated that the more reputable companies would be most cooperative in such an effort, and would leave the existing market open to the firms who generally make the poorest equipment and account for the poorest installations. Voluntary restriction, it was felt, might be questionable from a legal standpoint, and would in no way actually control the total number of burners installed.

The Supply committee also asked that inland waterways be kept open as long as possible to ease oil supply, and that they be opened as early as possible in the Spring. It was urged that steps be taken to avoid using oil to bale out gas users who burn oil only as standby fuel.

Directors voted a test publicity campaign through the Plumbing and Heating Industries Bureau, with an option to continue beyond a six-month period, if desirable.

Changes in the OHI constitution and by-laws were approved by the board, providing for vertical sub-sections in each of the divisions. A meeting is planned at the time of the Chicago show in April to discuss the projected sections with members and prospective members.

Acceptance was voted of the Oil Heat Association of Central Pennsylvania, as soon as its incorporation is completed, as a member of the distribution division. Membership now embraces 1505 dealer members of the division in affiliated chapters and the associate chapter. Hajoca Corporation was accepted as a member of the manufacturers' division. Members accepted for the Accessory Division include Thatcher Furnace Co.; Pezillo Pump Co.; Jackson & Church; Hago Products, Inc.; Gerstein & Cooper Co.; Market Forge Co.; Flexible Coupling Co., and Vinco Co. Resignations were accepted from Ace Engineering, Iron Fireman, Bettendorf, General Bronze and Atlas Industries.

The next meeting of the board will be at Chicago in April.

◈

Jersey Standard, Shell Expand Laboratories

KNOWN RESOURCES, coupled with accomplishments of research scientists, assure a supply of petroleum products for an estimated 1,000 to 3,000 years, even without discovery of new oil-producing areas, it was emphasized at the January 12 dedication of a new building at the Baton Rouge, La., laboratory of Standard Oil Co. (N. J.). The laboratory, including two dozen pilot plants, built up an impressive number of firsts during the war, and now is concentrating on production synthetically of gasoline from natural gas. The first fluid catalytic cracking plant in the world to go into commercial production is only one of the achievements credited to the Baton Rouge laboratory. In common with the rest of the industry Jersey Standard is intensifying its research activities in all fields of petroleum, and announces also that the first of a group of new buildings at Linden, N. J., will be completed in the Spring and occupied by Standard Oil Development Co., its central research affiliate.

On December 6, Shell Oil Co., dedicated a new Exploration and Production Research Laboratory in Houston, Texas. The sound-proof, air conditioned building houses the latest type of research apparatus and a large staff of scientists, who will concentrate on finding better ways to locate new crude oil reserves and more efficient means of producing oil from existing sources. The new unit consolidates and expands Shell's research activities. H. S. M. Burns, president of Shell Oil, who spoke at the dedication, emphasized that one of the laboratory's most vital functions will be to provide improved recovery measures from existing fields and from those yet to be discovered. The research center is part of Shell's construction program in Houston, which this year will represent a total investment of more than 50 million dollars, including new chemical plants, new and expanded refinery units.

◈

Irvin A. Eubanks has been named to the newly-created post of supervisor of information, Airtemp Div., Chrysler Corp., Dayton 1, Ohio. Mr. Eubanks, a former newspaperman, joined Airtemp in August 1946 as editor of the Chrysler Airtemp News. Publication of dealer and employee magazines will remain under his supervision, and he will have charge of Division informational activities.

"What a day! And not a solitary soul asked for a raise so I could let off steam!"

WEBSTER ELECTRIC

Thermodrive KIT NOW AVAILABLE

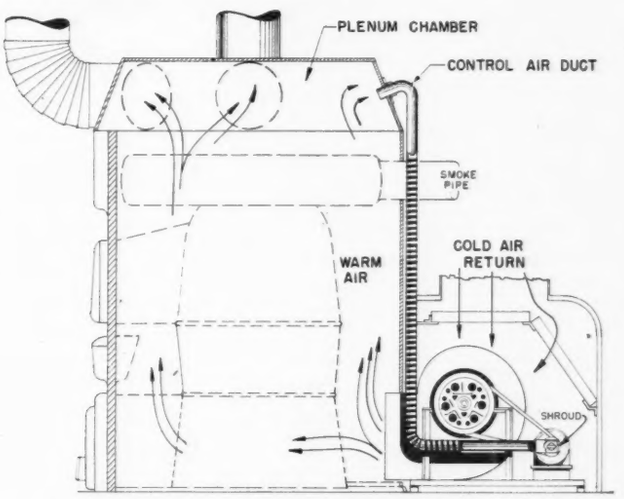
for an easy conversion to variable speed blower operation in existing warm air heating plants

KIT CONSISTS OF THE FOLLOWING ITEMS

1. Thermodrive Pulley—Replaces present drive pulley on blower motor. Automatically and continuously adjusts blower speed in accordance with heat being produced by furnace. Comes with ⅜″ shaft hole, with bushing to reduce to ½″ where necessary to fit motor shaft.
2. Tension Blower Pulley—A new split-sheave, spring-loaded pulley which replaces present blower pulley. Designed especially for use with Thermodrive, it eliminates the need for idler pulley or other device for taking up belt slack, thereby greatly simplifying installation. Comes with 1″ shaft hole, with bushings to fit ⅝″, ¾″ and ⅞″ blower shafts.
3. Control Air Duct—1½″ flexible steel conduit for bringing the warm air sample from the plenum chamber to the Thermodrive. Supplied in 7′ length to take care of maximum run encountered.
4. Shroud—Fits onto the lower end of control air duct to direct warm air flow onto the Thermodrive bellows, and shield it from the cold air return-flow.
5. Mounting Flange—For fastening top end of control air duct to furnace casing where it enters plenum chamber.
6. Hanger Iron—For anchoring control air duct.
7. All necessary bolts and self-tapping screws.
8. Installation Instruction Bulletin.

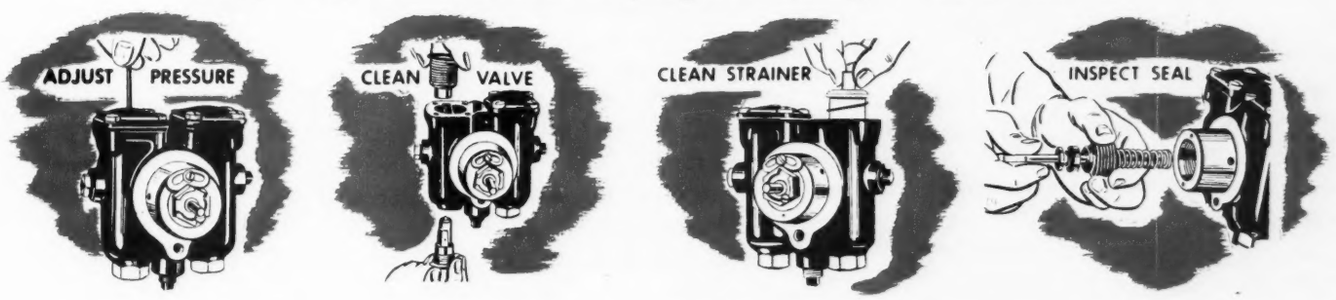
Thermodrive May Be Used on Modern Forced Air or Converted Gravity Feed Warm Air Furnaces

Thermodrive is designed to coordinate continuously fan speed with bonnet temperatures in forced warm air heating systems so as to give more even room temperatures, more comfort and greater efficiency. Thermodrive pulley replaces present drive pulley and increases fan speed as bonnet temperature increases. Speed increases can be as much as 65 percent from low to high. The off-cycle operation is reversed, and fan continues at decreasing speeds until cut-out temperature on bonnet control is reached. A warm air "sample" is continuously drawn from the bonnet and discharged over a thermostatic bellows, which in turn actuates a sliding sheave of a split pulley. This changes its effective diameter and results in either increased or decreased speed of the fan.



WRITE FOR LITERATURE AND SURVEY FORMS FOR PLANNING INSTALLATIONS

Few Parts Mean Simple Easy Service



All three—Webster Electric Fuel Units, Webster Electric Transformers and Thermodrive—are the products of engineers that are oldtimers in the heating field. Webster Electric's reputation for producing top quality products has resulted in these three items being widely accepted by the trade. They are built to give you justified confidence when you incorporate them in new equipment or when you use them for replacement.

WEBSTER RACINE **ELECTRIC** WISCONSIN

Established 1909

Export Dept.: 13 E. 40th Street, New York 16, N. Y. Cable Address "ARLAB" New York City

"Where Quality is a Responsibility and Fair Dealing an Obligation"

Gov. Green Asks Illinois Fuel Saving

FUEL CONSERVATION in Illinois will become a continuing voluntary effort from January 15 to March 1, according to a proclamation by Governor Dwight Green, issued January 15. In a series of "Fuel Conservation Weeks" to run until the first of March, the Governor urged the wholehearted support of the public and all state and municipal officials in an effort to avoid hardship in the "American tradition of accomplishment through cooperative effort."

A "Governor's Fuel Conservation Committee" was appointed at a Chicago meeting January 15, with Carl R. Jonswold, representing the Burning Oil Distributors Association, as chairman, and Norman Radder of Plumbing & Heating Industries Bureau, as secretary. Other members of the committee include Marc Bluth of Stoker Manufacturers Association; M. J. Cassidy representing the gas industry; Frank Donovan of Chicago Coal Merchants Association, Warren Harris of the University of Illinois, W. A. Matheson representing oilburner manufacturers, and Harry G. Schaffer of Chicago Oil Burner Association. The committee will advise on publicity and promotion of fuel conservation.

An attractive 3 x 6 in. folder has been prepared by the State for distribution through trade channels as an envelope stuffer outlining "12 Easy Things to Do." Emphasis is given to those fuel-saving points which the homeowner can do for himself without appreciable cost. The folder also carried the proclamation by the Governor.

In contrast to most of the state fuel conservation efforts, the Illinois set-up is relatively free of the bureaus and commissions that other governors have established to investigate and take official action on fueloil. Recognizing that the transportation bottleneck affects all fuels, the proclamation is aimed to conserve all fuels for all applications.

Governor Green's proclamation outlined the need for fuel saving; told of the increasing demand and the shortage of transportation, though suppliers were doing all in their power to increase fuel supplies. The Governor then asked that:

"All householders take prompt action to ascertain what measures they may pursue to reduce the costly waste of fuel in their own homes through the proper use of insulation, expert adjustments of heating plants and regulating devices, and similar means.

"All heating fuel dealers exercise care and diligence in the supplying of correct fuels, and in their storage, and that corrective measures be indicated to householders using an excess of fuel to the end that every degree of comfort be accommodated with all possible economy.

"All heating equipment dealers provide every possible assistance to householders by means of proper installations, accurate instructions, and necessary renovation of heating units to the end that all possible protection be provided to them at lowest cost and at the greatest saving in fuel.

"All public officials extend complete cooperation to such measures as are undertaken in the local communities to conserve fuel supplies through voluntary action, rather than by compulsory governmental restrictions, and finally, the entire emergency program be carried out in the American tradition of accomplishment through cooperative effort in the public interest."

Canada Voluntarily Reduces Imports

THE CANADIAN GOVERNMENT, through its Washington Embassy, has informed the Department of Commerce of a voluntary reduction in imports from the United States of finished kerosene, stove oil, furnace and Diesel oil. The petroleum industry of Canada has agreed to reduce its imports of these products to 50%, or less, of the monthly average in the first quarter of 1947. The reduction, effective January 1, continued through the month of January, at which time the Canadian Department of Reconstruction and Supply, in cooperation with the Canadian petroleum industry, reviewed the country's petroleum position with a view to making even greater reductions during the months of February and March.

Under the limitations, the import of these petroleum products from the United States during January will be reduced to a rate not to exceed 6,000 barrels a day.

In an earlier announcement, the Rt. Hon. C. D. Howe, Canada's Minister of Reconstruction, stressed that it was of the utmost importance that consumers heed suggestions by their oil suppliers to conserve. Mr. Howe referred to a statement he made last May 9 in the House of Commons, in which he drew attention to the fact that a serious shortage in the supply of fueloil was developing. Steps taken by the industry and oilburner manufacturers to limit demand for fueloil were effective, he said, but shortages have developed elsewhere in the world, particularly the United States.. Substantial quantities of petroleum products being imported from the United States represented a drain on Canada's dollar reserves and the public was aware of the government program to conserve dollar reserves. Mr. Howe concluded that it was apparent now that all users would have to do everything possible to conserve fueloil to avoid serious hardship.

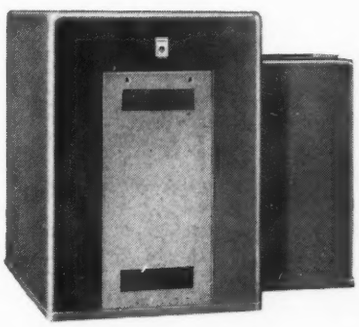
Stuart D. Watson has been promoted to assistant advertising manager, Standard Oil Co. (Ind.). He joined the company in 1939 as an advertising clerk in the South Bend sales field and, after returning in 1946 from Army service as an infantry Captain, he acted as executive assistant to the advertising manager at Chicago.

Jacob C. Plattner has become chief product engineer, Hart-Heat Div., Avery Co., Peoria, Ill. He will have charge of a newly-organized department for development of new Hart automatic heating, and will adapt improvements to present products. Mr. Plattner's previous experience includes ten years at Caterpillar Diesel's Peoria, Ill. plant.

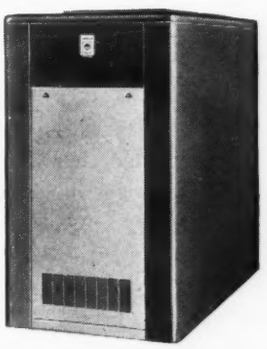
"I figure we're too near the same height and weight for either of us to be to blame"

Warm Air Furnaces! Winter Air Conditioners!

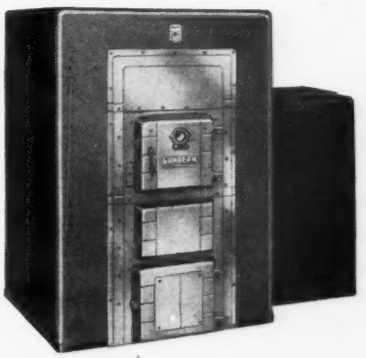
You can find just what you need in the complete SUNBEAM line by AMERICAN-Standard



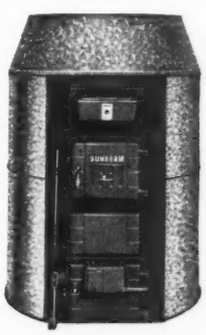
WESTMORELAND Oil Fired Winter Air Conditioner. For homes of virtually any size. It is designed to perform as a completely coordinated oil heating unit with the Arcoflame Oil Burner, or to give efficient service with any other standard pressure atomizing burner. Made in 6 sizes with capacities at the register ranging from 105,000 to 330,000 Btu.



SARATOGA Winter Air Conditioner. A modern low-priced oil fired unit for small homes. Features heating element of heavy boiler plate steel with riveted and welded seams. Compact jacket encloses blower-filter unit and heating element . . . also provides space for Arcoflame or other quality burner.



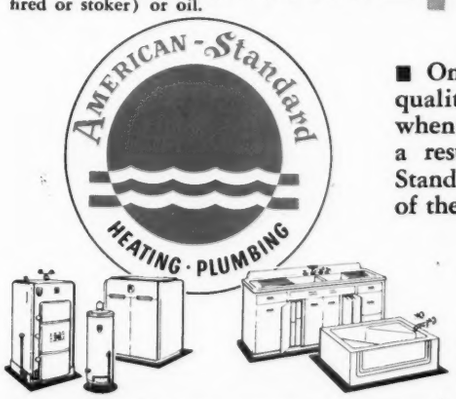
ALLERTON Winter Air Conditioner. A fine quality, low cost unit, skillfully engineered for efficient, economical performance. Features include rugged, heavy steel heating element and ample radiator of riveted and welded construction; jointless, leakproof ash pit; duplex grate. Burns coal (hand fired or stoker) or oil.



ARLINGTON Warm Air Furnace. Heating element and extra large radiators are of heavy boiler plate steel. Has full height fire pot and duplex grate. Made in 20", 22", 24" and 27" shell diameters. The Arlington "Square" is an attractively jacketed furnace with the same fine construction features. Both units burn coal (hand fired or stoker) or oil.

CLIFFDALE Winter Air Conditioner. For coal (hand fired or stoker) or oil. Has steel heating element. Radiator and head are of riveted and welded leakproof construction for long life and efficient service. Inner jacket provides insulation that helps reduce heat loss, keeps jacket cool and saves fuel.

CLIFTON Warm Air Furnace. Combining all the features needed for efficient, economical service, this rugged gravity furnace has welded and riveted leakproof steel heating element, "V" type baffle, duplex grate, extra large fire pot, and one-piece shell. For coal (hand fired or stoker) or oil.



■ Once again you can be sure of quality and of customer satisfaction when you sell warm air heating. As a result of accelerated American-Standard production, more and more of these nationally famous Sunbeam products are ready for you. For details of the complete line, contact your Wholesale Distributor.

American Radiator & Standard Sanitary Corporation, P. O. Box 1226, Pittsburgh 30, Pennsylvania.

AMERICAN-Standard

First in Heating and Plumbing

LOOK FOR THIS MARK OF MERIT—It identifies the world's largest line of Heating and Plumbing Products for every use . . . including Boilers, Warm Air Furnaces, Winter Air Conditioners, for all fuels—Water Heaters—Radiators, Convectors, Enclosures—Gas and Oil Burners—Heating Accessories—Bathtubs, Water Closets, Lavatories, Kitchen Sinks, Laundry Trays, Brass Trim—and specialized products for Hospitals, Hotels, Schools, Ships and Railroads.

Industry Group

Activities of local and national industry associations are reported monthly in this department. Secretaries are invited to send reports of their Group's activities to reach the editor by the 20th.

Set Dates For Warm Air Mid-Year Convention

AN ANNOUNCEMENT from headquarters, National Warm Air Heating and Air Conditioning Association, Cleveland 14, Ohio, reveals that the mid-year convention has been booked at the Edgewater Beach Hotel, Chicago, June 28 and 29. Those who plan to attend are urged to make hotel reservations now, since the usual influx of summer visitors to the hotel is expected to cut down considerably the number of rooms available. An outline of the convention program is being prepared and will be announced in a few months.

New York Old Timers at Frolic During Show Week

OIL HEAT OLD TIMERS, a local New York group of men at least 15 years in the oilheating industry, put on a Stag Frolic at the Park Central Hotel, New York, February 3, for 300 members and guests. A cocktail hour was followed by a roast beef dinner and entertainment sufficiently varied to please everybody.

The Frolic Committee, consisting of the board of directors, was made up with plenty of false whiskers and eye shadow to mark them as old old-timers.

For the first time members were permitted to entertain guests at the association's party. Previous functions have been for members only, but the frolic during the week of the Heating and Ventilating show was opened to visitors from out of town.

API Issues Booklet, Advertising Matter

A NEW BOOKLET, "Plain Talk on Oil Today" has been prepared and issued by American Petroleum Institute, New York 19, N. Y., as part of its program to gain public support in the conservation of oil. Intended for wide public distribution, it urges careful conservation by all users to provide enough oil for all as the industry proceeds with its expansion program. It explains that Americans today are consuming more oil than was required by the entire world only ten years ago, more than was needed at any time during World War II and that current United States consumption amounts to twenty-eight times as much oil per person as all the rest of the world. A portion of the booklet details the industry's four billion dollar program of facilities expansion and points out that until the wells, pipelines, refineries, and storage plants embodied in the program are completed, the industry is soliciting the aid of the public in implementing a conservation program.

Suggested spot radio announcements, together with advertising and other material, comprise the latest package being furnished by API's Public Relations Operating Committee to district committees. The package consists of nine spot radio announcements, a suggested letter to local radio stations, a series of seven newspaper advertisements, a two-page fact sheet on conservation and four radio commercials. A two and five minute appeal for conservation also have been furnished for distribution to Chambers of Commerce and other civic organizations. The program is further being backed up by a suggested letter for fueloil dealers to send to their customers, urging their participation in conservation efforts.

Industry Dinner-Rally Planned In Milwaukee

FINAL DISCUSSION of plans for the annual industry dinner-rally, sponsored by the Wisconsin Oil-Heat Association, Inc., Milwaukee 2, Wis., was on the program of the Association's regular monthly meeting held January 29. Arranging details for the dinner, to be held February 27, was only one of several important subjects on the agenda. The meeting discussed the fueloil supply situation and what has been done to improve the situation and heard further information on establishment of a Code of Fair Practices. Advertising proposals for 1948 and participation of the group and

(*Continued on page 94*)

The camera *catches New York Old Timers, and their guests, in a "sober," sedate mood. 'Twas taken with a high-speed lens!*

SAFEGUARD

BURNER PERFORMANCE *with*

Chemistone

THE ORIGINAL CONTROLLED POROSITY ELEMENT

EXCLUSIVE IN *Klemm* FUEL OIL FILTERS

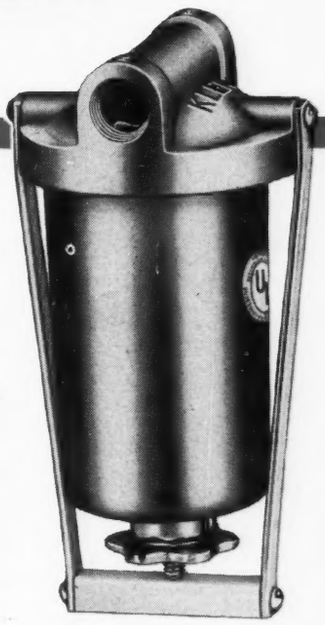
Glass Bowl Models

FF-201 . . . 1/4"
FF-230 . . . 3/8"
JR-60 . . . . 1/4"
JR-62 . . . . 1/8"

Metal Bowl Models*

FF-430 . . . 3/8"
FF-401 . . . 1/4"
JR-80 . . . . 1/4"
JR-82 . . . . 1/8"

**Listed by Underwriters' Laboratories, now available in all sizes.*



MODERN DESIGN

These streamlined, ultra modern filters harmonize in appearance with the finest heater installations.

PROVED IN USE

Soundly engineered, Chemistone element assures 100% filter action. Thousands of users testify to its high efficiency.

EASY TO INSTALL

No tools or wrenches are required. This simplifies cleaning—a quick, easy operation.

PACKAGED RIGHT

Convenient dealer cartons—12 of a model—or assorted. Stack easily... Ship safely.

PRICED RIGHT

Attractive price aids faster sales. You enjoy a liberal margin on every sale.

Avoid unnecessary emergency calls. Install a Klemm Fuel Oil Filter on *every* oil burner you service. This eliminates preventable burner stoppages. Your customers get uninterrupted heating comfort. *You profit twice on every sale*—first a good margin on the filter . . . then, a happier customer. A Klemm Filter insures a constant flow of clean, trouble-free oil. It stops dirt, sediment, abrasives and other harmful foreign matter from reaching the burner. New small size is now available for space heaters, ranges, hot water heaters, etc.

Klemm AUTOMOTIVE PRODUCTS COMPANY

1718 North Damen Avenue **Chicago 47, Illinois**

Export Division: **Guiterman Co., Inc., 35 S. William St., New York 4, N. Y.**

fueloil & oil heat

its members in this year's Home Show also were considered.

The Association sponsored a second advertisement on January 4 in the Milwaukee *Journal* to acquaint the public with the facts on the why and wherefore of the local fueloil situation. The advertisement listed fifteen steps for the homeowner to take to improve his heating system and conserve oil. It repeated the caution, first published in a similar advertisement which appeared June 15, 1947, for all who contemplate converting to oilheating to determine beforehand from a reputable fuel dealer that he can supply the new installation.

I-B-R Reviews Results Of Advertising Campaign

A BROADSIDE, published by Institute of Boiler and Radiator Manufacturers, New York 17, N. Y., is being sent to contractors, dealers and distributors of hot water and steam heating equipment to acquaint them with the results of the consumer advertising campaign begun by the Institute a year ago, which it is planned to continue on a long-range program.

Backbone of the campaign is an illustrated consumer booklet, "Enjoy Better Living With Radiant Sunny Warmth," which is offered to dealers and contractors at nominal fees and offered to consumers in advertisements in magazines such as, *Better Homes and Garden, The American Home, House Beautiful, House and Garden, Small Homes Guide.* In addition, free window posters are sent to dealers with each order for booklets. To date, the Institute reports, more than 100,000 copies of the booklet have been distributed, as a result of the consumer advertising and trade promotion.

Boston Group Hears Talk On Nozzles

A FEATURE of the 150th meeting of the Massachusetts Oil Heating Association, Boston, Mass., held January 27, was a talk on oilburner nozzles by Eugene O. Olson, Delavan Engineering Co., Des Moines, Ia. Mr. Olson's treatment of the subject stressed the importance of the nozzle in the original installation and discussed servicing and maintenance problems.

Honorary Secretary-Treasurer Fred Beckwith rendered his usual report on industry conditions and problems. Meetings for the balance of the season are scheduled to be held on the third Tuesday of each month.

Ask I-B-R Members To Return Scrap Quickly

CARROLL M. BAUMGARDNER, chairman of Institute of Boiler and Radiator Manufacturers, and executive vice president, United States Radiator Corp., Detroit, Mich., has revealed that all plants of the company and subsidiaries are scrapping inactive and obsolete patterns and equipment and are channeling this scrap metal to their own cupolas for remelting or making it available to dealers.

Mr. Baumgardner has addressed an appeal to other members of the Institute to take immediate action toward speeding the return of scrap metal to dealers. The plea is in line with the request of Secretary of Commerce Harriman, who, acting for executives of major steel producing companies, requested industry's cooperation to direct greater supplies of scrap toward the furnaces.

Sheet Metal Group Holds Minnesota Convention

ITS FIRST ANNUAL CONVENTION was held January 16 and 17 at the Nicollet Hotel, Minneapolis by the Roofing and Sheet Metal Contractors Association of Minnesota. The sessions opened on January 16 with a general meeting and ended on the 17th with a business meeting, at which officers were elected and installed for the coming year. In between, meetings were held to discuss the Taft-Hartley Act, accounting and tax problems, trade relations, education and ethics, apprenticeship and labor. Social functions included a banquet and cocktail hour the first day, luncheons on both days between convention sessions.

Oregon Meeting Set By Willamette Valley Group

A MEETING of dealers in the Willamette Valley area is being sponsored by Oregon Fuel Merchants Association, Portland 4, Ore. The gathering is scheduled to be held February 21 and is the first session in this area, which consists of Eugene, Lebanon, Albany, Salem and Corvallis. C. R. Holloway, Jr., Harry Norquist, Bill Alexander, Harry Williams, all Portland, will be speakers. Jim McNesby, Corvallis, is chairman of the meeting, which will be held in the Benton Hotel, Corvallis.

Elmira, N. Y. Dealers Discuss OHI Chapter

PLANS for the organization of an Elmira, N. Y. area chapter of Oil-Heat Institute of America, Inc., were discussed at a meeting held in Elmira in December. Charles D. Stempfle, Stempfle Electric Co., was chosen temporary chairman.

Speakers included Joseph A. Collins, Buffalo, national chairman and A. E. Whitehill, national secretary, OHI Distribution Division.

Spencer, Honorary Chairman Of Board, B. O. D. A.

IN RECOGNITION of his fourteen years continuous efforts on behalf of the Burning Oil Distributors Association, Chicago 4, Ill., Frank E. Spencer, Socony-Vacuum, was unanimously named honorary chairman of the board. The action was taken at the time new officers were elected by the group at its annual meeting, as reported on page 190, January issue, FUELOIL & OIL HEAT.

Laube Named To Head OHI of Rochester, N. Y.

AT A MEETING of the board of directors, Oil-Heat Institute of Rochester, N. Y., G. Fred Laube, president, Laube Electric Corp., was elected president of the Institute. Other officers named at the same time are William W. Gordon, vice president; Arie Redeker, secretary and Fred R. Huberlie, treasurer.

◈

C. W. *Haseltine,* vice president, secretary and treasurer, Mack Trucks, Inc., New York, N. Y., retired December 31, ending a thirty-five year career with the company. He joined Mack as bookkeeper and statistical clerk in 1912 and was appointed secretary and treasurer in 1918. Coincident with the announcement of this retirement, it is revealed that *F. W. Sommer* has been named treasurer and *T. W. Homan,* secretary.

WINKLER challenges any Oil Burner

to *Match these Tests!*

THE NEW WINKLER LP* OIL BURNER

***LOW PRESSURE**

A truly sensational advance! The Winkler ***LP**** Oil Burner introduces a kind of performance never seen before—presents features which amaze the experts! The tests described below will change your conceptions of oil burner efficiency.

The Winkler ***LP**** Burner maintains a constant fuel-air ratio with any grade of oil and under the most adverse conditions. Among its design features are —

1. **Non-clogging nozzle.**
2. **Exclusive air cone stabilizer.**
3. **Positive metering of fuel oil regardless of viscosity.**

Burning rates from 3/4 to 1½ GPH make this burner adaptable to small installations, eliminating the waste of over-sized fires. In addition, the Winkler ***LP**** burns catalytically cracked oils as efficiently as any other kind.

Write at once for complete information.

DISTRICT MANAGERS WANTED

Winkler's expanded program in merchandising automatic heating equipment requires additional field managers. This is an outstanding opportunity for experienced high grade men to make substantial earnings in franchised territories. Write today, giving full information on your qualifications.

Fuel-Air Ratio Test

A standard No. 1 fuel oil was burned in a 3/4 GPH Winkler ***LP**** Oil Burner, adjusted to burn cleanly and produce 11% CO_2 in the flue gas.

Without further adjustment, a No. 3 fuel oil was substituted. No change was noted in the CO_2 analysis and the fire remained absolutely clean.

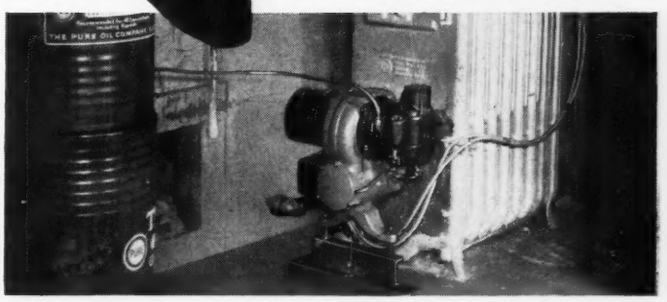
Again, without adjustment, a standard No. 3 industrial 100% catalytically cracked, untreated fuel was substituted. The fire remained clean and the CO_2 reading increased to 11½%.

Finally, an unrefined, black crude was fed to the burner, still without adjustment. The CO_2 reading was 11½% and the fire clean.

Water Test

Water was dripped into the oil line of a 1 GPH Winkler ***LP**** Burner at the rate of 1/4 gallon per hour and the test continued for one hour. At no time was the fire extinguished and the unit operated satisfactorily when manually started and stopped at frequent intervals.

This test further indicates the matchless ability of the Winkler ***LP**** to handle low grade fuels, containing not only impurities but slugs of water.



Dirty Oil Test

A standard production 3/4 GPH Winkler ***LP**** Oil Burner was installed in an Arcola boiler located in an automotive service station. All crank case, transmission and rear axle drainings obtained by the service station were burned in the Winkler ***LP****, actually heating the building. No filter or dirt trap was used.

The burner received oil other than waste oil only when the waste supply was low, in which case No. 4 fuel oil was added—estimated to be less than 20% of the total oil burned.

The test was run for 60 days during which approximately 1000 gallons of oil were burned. During the test the burner needed no adjustment whatever. CO_2 content of the flue gas was 11% at the start of the run and was found to be 11% at the end of the run. Absolutely no smoke or soot was formed and at the end of the test the inside surfaces of the boiler were chalky white.

The burner fuel unit was then disassembled and found full of dirt consisting of sand, carbon, steel chips and sludge. Even under this extreme condition the burner operated perfectly and the nozzle was found clean and unobstructed.

THE WINKLER *Econo-Flame*

A radically improved design in high pressure burners. Features the Deflecto-Air principle—maintains correct mixture of oil and air for complete combustion—ends sooty, uneven firing and noisy operation.

WINKLER

Automatic Heating Equipment

U. S. MACHINE CORPORATION, Dept. AL-37, Lebanon, Indiana

fuel oil & oil heat

Manufacturers Activities

Fitzgibbons Honors Employees; Appoints Three Representatives

FIFTEEN employees of Fitzgibbons Boiler Co., Inc., New York 17, N. Y., were honored for their long terms of service on December 9 at a dinner held in Oswego, N. Y., home of the Fitzgibbons plant. Presentation to the employees of emblems denoting twenty-five, twenty, fifteen and ten year service continued a practice started last year at the company's 60th anniversary celebration. Presentations were made jointly by Homer Addams, chairman of the board, Paul K. Addams, president and Ray C. Malvin, vice president and general plant manager. Other company officials in attendance included: John A. Darts, vice president; Gustav E. Olsen, vice president and manager of metropolitan New York sales; and Earle E. Hoefer, plant superintendent.

Homer Addams, *left, presents emblem to Sydney Tucker, commemorating his twenty-five years of service with Fitzgibbons.*

Twenty-five-year emblems were awarded to Oscar F. Noss, assistant sales manager; Sydney Tucker, chief engineer; Neil Askew, master mechanic and George Norton, chief carpenter. Mr. Homer Addams in his talk to the men stressed the importance of loyalty, the significance of a company name and how that name could hold a reputation through years of unblemished progress.

John R. Collete, manager of field sales, announced recently the appointment of three new sales representatives. In Washington, D. C., the A. S. Nugent Co. has been appointed to cover that area; the Lynn Co. will represent the company in the Columbus, Ohio area and R. Dudley Densmore has been named in Rochester, N. Y. to concentrate on residential boiler sales.

Jersey Standard Name Becomes "Esso Standard"

ESSO STANDARD OIL CO. is the new name of the former Standard Oil Company of New Jersey, eastern operating company of the Standard Oil Company (N. J.). The company has used the Esso name since 1925 when it was first applied to premium grade gasoline, and in recent years has expanded use of the trade mark and name to cover most other products. The company operates as a refiner and marketer in 18 states from Maine to Louisiana including the District of Columbia.

Plan Extensive Promotion For Century Engineering

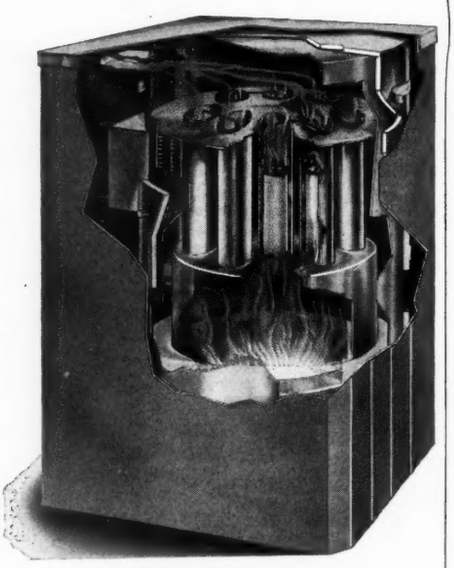
AN "ALL OUT" sales promotion campaign is planned for 1948 by Century Engineering Corp., Cedar Rapids, Ia., with the announced intention of making Century products the best known

YOUR BEST BUY IN '48...

ACME DUAL 8

HIGH EFFICIENCY BOILER-BURNER UNIT

The amazing high efficiency of the Acme Dual "8" is due to the engineered design of the Stainless Steel intensifier tubes... which not only act as baffles but also radiate to the heating surfaces of the boiler tubes additional heat taken from the central gases which usually pass on to the chimney as waste. Their design also tends to maintain the same high temperature throughout the length of the tubes thereby producing much faster heating with a greatly reduced fuel consumption.



Beautiful, streamlined green wrinkle finished cabinet with chrome trim. Top covers easily removed for cleaning. Tankless water heater; removable type, 240 G.P.H. High Pressure boiler flues. Blanket insulation, 1½ in. rockwool. Heavy steel fire-box.

All accessories are conveniently and efficiently located on one side of the boiler making installing and servicing a simple task. The cabinet can be assembled after all piping has been completed.

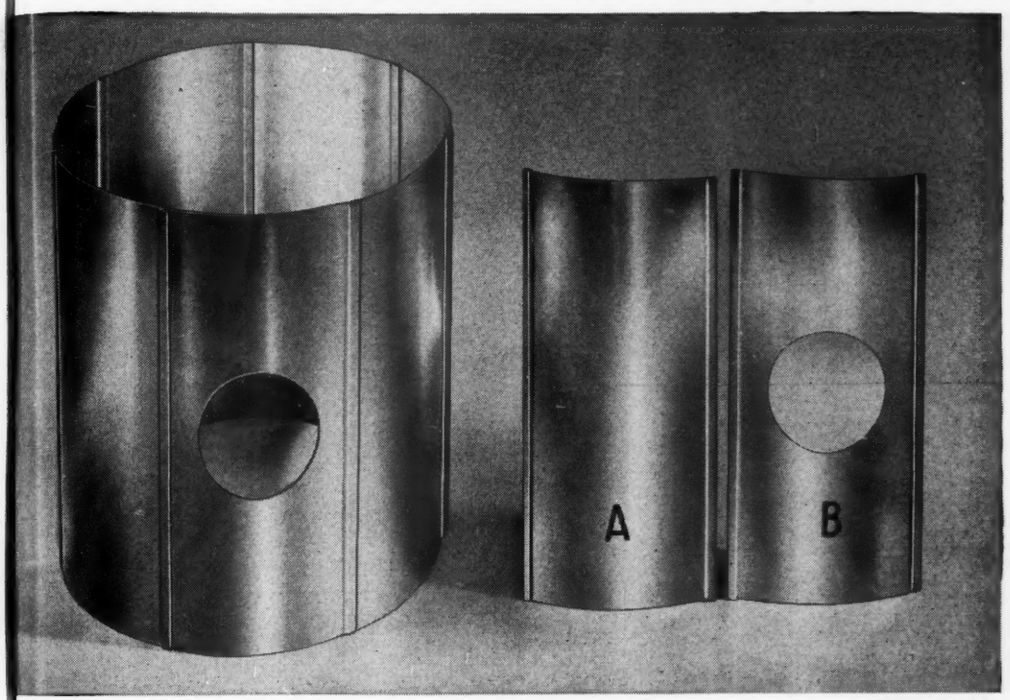
Fast heat! Fast sales! Could you ask for anything better! Exclusive territories are still open for New Dealer Outlets. Write today for catalog and full details. Check the facts and you'll feature the Acme Dual "8" in '48.

ACME TANK AND WELDING

DIV. THE UNITED TOOL & DIE COMPANY

1031 NEW BRITAIN AVE. ELMWOOD, CONN.

NEW! REVOLUTIONARY!



Patent Applied For

HEAT-RESISTANT STAINLESS STEEL **PANELOX** **COMBUSTION CHAMBER FOR OIL BURNERS**

Gives You All These Advantages

MORE SALES • BETTER NET PROFIT • EASIER INSTALLATIONS
LESS TIME REQUIRED PER JOB • SMALLER STOCKS
GREATER CUSTOMER SATISFACTION

Gives Your Customers What They Want

Take a good look at the new Heat-Resistant Stainless Steel PANELOX Combustion Chamber. You're seeing the most amazing and efficient combustion chamber ever developed for domestic oil burners. It looks simple—and it is. Yet years of engineering experience—years of scientific experiment with designs and materials—went into its development. Check its features and advantages—see for yourself why it's in a class by itself. Then write, wire or phone for prices and further details.

PROVIDES INSTANTANEOUS COMBUSTION. The new, amazing PANELOX Combustion Chamber reflects heat instantly—heats up in *seconds.* No minutes-long warm-up period. That means complete, efficient combustion the minute the burner comes on. Customers *like* that.

ELIMINATES "BLOW-TORCH" STARTING ROAR—Cause of most oil burner noise complaints. Proper combustion, *right from the start,* is what does the trick. Customers like *that.*

ELIMINATES TURBULENCE NOISES during burner operation. No dead air spaces, no rough surfaces, to set up noisy flame turbulence. Customers like *that,* too.

PAYS FOR ITSELF in fuel savings. Instant combustion means less heat *up the chimney*—more heat *doing a heating job.* More BTUs from every gallon—fewer gallons required. Customers like *that.*

ELIMINATES SMOKE, SOOT AND OILY FILM caused by inefficient combustion. Proper burning means *clean* burning. And customers like *that.*

PROVIDES BETTER ROOM TEMPERATURE CONTROL—by eliminating override. Burner starts heating as soon as it comes on. No wide variations in room temperature due to override. Customers like *that.*

Inquiries invited from Manufacturers' Agents.
Several good territories still open.

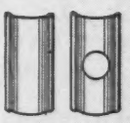
STEFCO STEEL COMPANY
HEATING EQUIPMENT DIVISION • MICHIGAN CITY, INDIANA

Check These Outstanding

PANELOX

Features

HEAT-RESISTANT STAINLESS STEEL. Highest in chromium content, it is exceptionally heat- and corrosion-resistant. Not affected by sulphur-bearing oil. Withstands temperatures up to 2150°F. Thoroughly tested and proved under actual operating conditions.



ONLY TWO TYPES OF INTERLOCKING PANELS. With the two types of panels shown, you can speedily form any size or shape chamber required. "A" panels are standard. "B" panels have openings to accommodate 4-in., 5-in., or 6-in., burner guns. Panels are 6¾ in. by 14½ in.

INTERLOCKING SEAMS PREVENT WARPING. Note how the panels interlock at the seams—an exclusive feature with the PANELOX. Easily joined by sliding one interlocking edge over another. Those interlocking seams add great rigidity and structural strength. And see that clean interior? No dead spaces there to cause operating noise.

LIGHT IN WEIGHT—EASY TO HANDLE—NO BREAKAGE. Panels required for the average combustion chamber weigh only about 8 pounds. And the panels nest together so they're easy to handle. No breakage in shipment, handling or installation.

NO BACKFILL INSULATION! NO CEMENTING! NO TOOLS! Installation couldn't be easier. No tools required in assembling and installing. No backfill insulation or refractories needed. No cementing of any kind. Speeds up every job—cuts labor cost way down.

LOW INVENTORY—LOW FREIGHT COST. No need to stock several sizes. The two types of panels make any size or shape combustion chamber. And the light weight means exceptionally low shipping cost.

and most wanted brand of oilfired heating equipment. E. J. Lattner, president of the company, in revealing the plans, explained that the campaign would concentrate on selling the Century name to consumers and also to publicize the individual Century dealer in each community.

It is planned to use every effective medium available, including newspapers, radio, billboards, car cards, direct mail, dealer displays, coupled with an advertising campaign to be placed in national magazines.

H. C. Little Display Pieces Available To Dealers

THREE DISPLAY PIECES, recently completed by H. C. Little Burner Co., San Rafael, Calif., and made available to its dealers, have been prepared in full color, designed to present the most important features of units so that the casual shopper obtains a complete sales story. The same features are helpful to a retail salesman as a selling tool. A secondary feature of the displays covers uninteresting portions of the equipment

Display *unit featuring standard register floor furnace. Others show wall furnaces and vaporizing conversion burners.*

with attractive messages and dramatizes application of the units to specific home heating problems.

Displays were prepared on oilfired floor furnaces, dual register wall furnaces and vaporizing conversion oilburners. Flexibility in these point-of-purchase pieces permits the dealer to set them up as an integrated unit, in his window or show room, or arrange them separately to suit his own needs.

Minneapolis-Honeywell Starts Sales Conventions

A TRAVELING sales convention, which will reach more than one thousand field personnel in a series of gatherings scheduled for seven cities, has been inaugurated by Minneapolis-Honeywell Regulator Co., Minneapolis 8, Minn. The meetings will be of three-days duration and began with a series in Minneapolis on January 16, which covered all salesmen in the northwest regional division. Succeeding meetings will be held in San Francisco, January 22 to 24; Dallas, January 29 to 31; Chicago, February 6 to 8; Cleveland, February 9 to 11; New York, starting February 13 and Toronto, February 16.

Main purpose of the gatherings, according to Tom McDonald, vice president in charge of sales, is to review sales activity and outline expanded sales plans for 1948. The meetings will be addressed by Harold W. Sweatt, president, and all other home office executives. The field sales organization will be brought up to date on most of the automatic controls

The Bethlehem DYNATHERM

with the MONEY-SAVING, FUEL-SAVING

"Whirling Flame"

is within reach of every home owner regardless how modest the budget!

IT TURNS EVERY LAST DROP OF OIL INTO USEFUL HEAT!

NEW—

yet proved in thousands of homes.

The Bethlehem Dynatherm comes to you completely equipped with everything, ready for installation except the piping. It's as simple, automatic as an electric refrigerator. Built by a century-old organization of broad experience in oil heating.

A few exclusive Bethlehem Dynatherm territory Franchises are still available. Wire or write immediately for full information.

THE BETHLEHEM FOUNDRY & MACHINE COMPANY

BETHLEHEM, PENNSYLVANIA

field "Always the Pace Setter"

FIRE TENDER

Saroil

THE WILLIAMSON HEATER COMPANY

Quick Heat

Custom-Aire

Toridaire

has won the recognition of the leaders in the heating equipment industry. The famous names shown at the left are those of just a few of the many outstanding manufacturers of nationally known heating equipment who use FIELD draft controls. This widespread acceptance of Field barometric draft controls for all types of heating and cooking products is based on their proved-by-test superiority in actual performance.

FIELD DRAFT CONTROLS... *The "Best for the Finest"*

Coal, oil and gas-fired Furnaces and Boilers; Winter air conditioners; Space heaters; Stoves; Ranges; Water heaters.

FIELD CONTROL DIVISION

H. D. CONKEY AND COMPANY • MENDOTA, ILLINOIS

the company makes and salesmen will see for the first time many of the new controls the company plans to announce during the coming year. Many of the latter will be electronic devices for domestic and commercial heating and air conditioning applications.

PEMCO Changes Name To Oil Equipment Mfg. Corp.

ANNOUNCEMENT has been made that the organization formerly known as PEMCO, Petroleum Equipment Mfg. Co., New Haven 6, Conn., has incorporated and changed its name to Oil Equipment Mfg. Corp. The firm manufactures and distributes oilburner accessory equipment, including King tank gauges, combustion chambers and baffles. In the new corporation Danial Kaufman is president; Arnold J. Alderman, secretary-treasurer.

Petro Making Use Of New Cessna Airplane

A NEW CESSNA 195 airplane recently has been placed in operation by Petroleum

Cessna 195 plane being used by Petro to contact branch offices.

Heat & Power Co., Stamford, Conn., to facilitate contact between the home office and branch offices, field representatives and distributors throughout the country. The plane, replacing a smaller one which the company operated for 30,000 miles last year, is all-metal, with complete airline instrument equipment, including two-way radio and blind flying. It is piloted by Lt. John Lynch and operates out of the nearby Westchester County Airport. Load capacity is ample for the pilot, four passengers and normal baggage.

The plane's non-stop cruising range of 700 miles, cruising speed of 165 mph, puts the Chiacgo branch within four hours and thirty-five minutes flying time and Petro's refineries in Texas can be reached in a little longer time with one refueling stop. The plane's business utility is increased considerably by its ability to use small airports with short landing strips.

York-Shipley Inaugurates Multiple Management Plan

S. H. SHIPLEY, president, York-Shipley, Inc., York, Pa., explained to more than one hundred employees at a recent meeting the operation and reasons for adoption by the company of a multiple management program. Under the plan, which goes into effect immediately, four employee boards of directors are established to handle management problems and make recommendations to the corporation's senior board of directors. The employee boards will study all types of problems and forward unanimously-approved suggestions to the senior board for action.

The four boards are: administrative, representing office personnel; factory, representing plant management; sales, representing the company's sales divisions; Roosevelt, representing the Roose-

"NEWTYPE CORD"
THE *Six-Feature* HOSE
FOR EFFICIENT FUEL OIL SERVICE

Built to provide the basis for *increased profits* through important savings in delivery time and hose replacement costs.

1—Non-flattening, kinkproof construction . . . always *round*, on or off the reel.

2—Oilproof tube . . . no swelling and consequent reduction of original I.D.

3—*Always* a full capacity flow through entire length of hose.

4—Tougher, longer-wearing brown cover gives complete protection to entire hose.

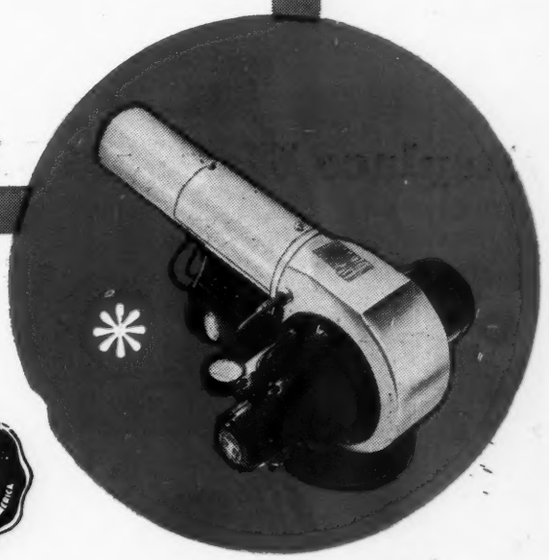
5—Quicker, time- and money-saving deliveries.

6—*Longer* hose life . . . *lower* hose costs.

Get *all* the facts about "Newtype Cord," now. Contact our nearest branch, or send for new illustrated folder.

GOODALL RUBBER CO., INC.
THE GOODALL-WHITEHEAD COMPANIES
Philadelphia • Trenton • New York • Boston • Pittsburgh • Chicago • St. Paul • Los Angeles
San Francisco • Seattle • Salt Lake City • Houston • Factory: Trenton, N. J. • Est. 1870

10 reasons why these SUN-RAY Models are attracting new dealers



1 **CAST-ALUMINUM FRAME** accurately machined—for positive concentric alignment, silent operation

2 **ALL PARTS** machine-ground to 0.001" tolerance, fitted by expert mechanics

3 **FUEL UNITS** by Webster or Sundstrand

4 **TRANSFORMER** heavy-duty—with built-in radio-interference eliminators

5 **MOTOR** Ohio or General Electric—with built-in overload protection

6 **AIR CONTROL** combines air diffusers with stabilizers of unique design for perfect mixing, quiet combustion, economy

7 **EACH BURNER** individually tested before it leaves the factory

8 **SIX SIZES** — ¾ to 25 g.p.h. — a model for every heating need

9 **PROFIT POTENTIAL** second to none — a full line of burners that has *everything*, plus full distributor cooperation

10 **RELIABILITY** — one of the oldest and largest oil burner manufacturers

INDEPENDENT
FULLY AUTOMATIC
OIL BURNERS

139-24 Queens Boulevard, Jamaica, N. Y.

Independent's SUN-RAY models are *the* burners to sell. They have everything—time-tested quality backed by 40 years of heating experience—highest quality parts and workmanship—every burner factory-tested for efficient operation before shipment—the approval of all leading authorities—satisfied dealers—complete dealer and distributor cooperation.

Look over the list of features, and you will see why these burners can be sold in competition with any other burner made.

**Illustrated: Model 2C12, rated 10 to 25 g.p.h., with twin ignition, twin nozzles, twin transformers.*

WRITE FOR FULL DETAILS

Independent Oil Burner Corporation
139-24 Queens Boulevard
Jamaica, N. Y.

Please send literature and full details on your SUN-RAY line of oil burners.

Name .....

Company .....

Address .....

City..... Zone..... State.....

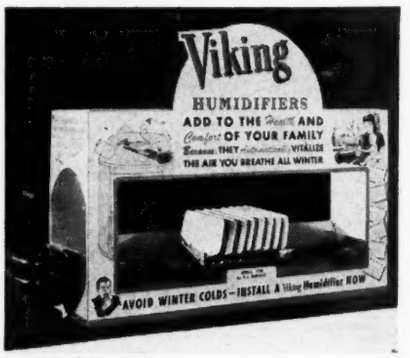
fuel oil & oil heat

velt Oil Service div., York area distributors of York-Shipley products. The members of the original boards were selected by Mr. Shipley on the basis of personal merit, but future boards will be selected by the employees on a merit rating basis. Extra compensation for board members will be voted every six months by York-Shipley directors.

The program has been fashioned after the multiple management plan of McCormick & Co., Baltimore, which has been operating successfully since 1932. Objectives of the program are to extend an invitation to employees to assist in company management, to give younger executives an opportunity to qualify for advancement, to give recognition of the capacity of younger men, to foster and develop human relations throughout the organization with the aim to provide maximum benefits to all employees in proportion to their contributions to the success of the company. Initiation of the program will be under the direct supervision of Alan Ross, assistant to Mr. Shipley.

Viking Offers New Humidifier Display

TO ASSIST dealers and jobbers in stimulating sales, Viking Air Conditioning


Viking
HUMIDIFIERS
ADD TO THE Health AND
Comfort OF YOUR FAMILY
Because THEY Automatically VITALIZE
THE AIR YOU BREATHE ALL WINTER
AVOID WINTER COLDS—INSTALL A Viking Humidifier NOW

Cardboard counter or window display shaped like plenum chamber.

Corp., Cleveland 2, Ohio, has prepared a visual selling aid to demonstrate the Viking humidifier. Constructed of sturdy cardboard, the display measures 24" wide by 20" high by 9" deep, designed both for counter and window use. An actual humidifier is placed in the four-color display, which is shaped like a plenum. Units are shipped knocked-down, with directions for assembly.

Regional, District Managers Attend Timken Meeting

TWENTY-FIVE regional and district managers attended the annual meeting of executive and field sales representatives, Timken Silent Automatic Div., Timken-Detroit Axle Co., held in the Division's general offices at Jackson, Mich. The sessions were held from January 5 to 9, under the direction of T. A. Crawford, general manager, who complimented the group on the biggest and best year in the history of the Division. Walter F. Rockwell, president, addressed the assembly at a mid-week luncheon session, expressing confidence in the Division's ability to cope with future problems. W. J. Chappell, assistant sales manager; R. M. Marberry, advertising manager; E. H. Haugen, chief engineer and R. Campbell, factory manager, also were speakers.

The Division contemplates an aggressive program during 1948, utilizing every available sales, promotion and advertising weapon. Particular stress will be placed on the Timken Guaran-

Replace Worn out Flames with REXOIL'S FLAME of Flames

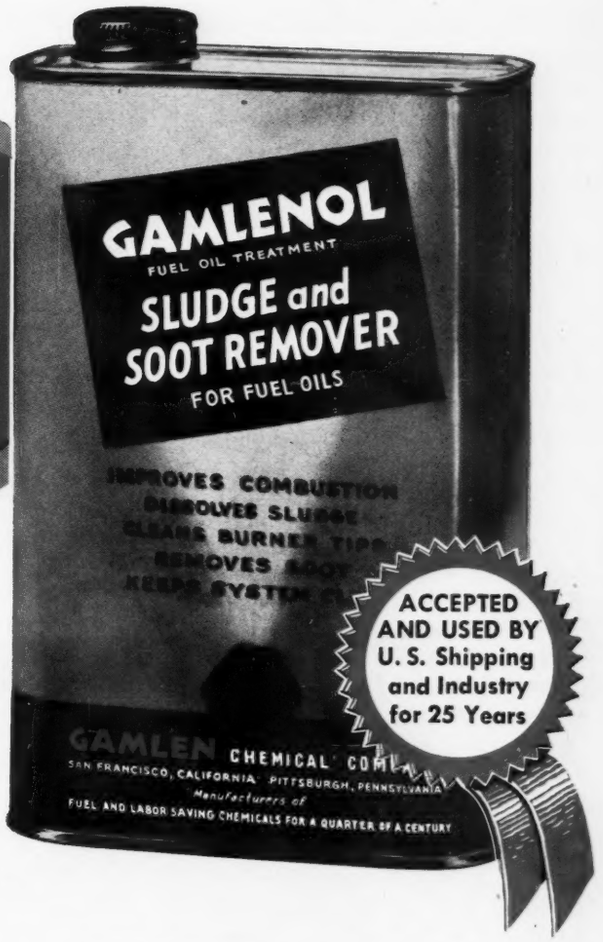
All-Ways YOU'RE RIGHT WITH Rexoil

A self-contained Ball of Fire that knows no equal—that's Rexoil's "Flame of Flames." It ignites immediately, without smoking,—without troublesome adjustments because of Rexoil's superior design and patented features. Quick cut off Fuel Hoarder, high heat Combustion Head and special Air Stream Turbulation System combine to give desired heat—faster, with real fuel saving economy. So thoroughly is the oil mixed with air before combustion begins that tomorrow's catalytic fuels will burn equally well . . . with equal savings.

A Rexoil franchise is profitable business. Write to find out why you're "Right with Rexoil,"—All-Ways.

REIF-REXOIL, Inc.
37-43 Carroll St. Buffalo 3, N. Y.

NOW 50% PROFIT



ON GAMLENOL SLUDGE *and* SOOT REMOVER

The Only Fuel Oil Treatment That Has All These 9 Goodwill-Building, Profit-Making Features!

1. Makes fuel oil flow freely, atomize properly, burn evenly.
2. Dissolves sludge; prevents its reaccumulation; disperses water condensation.
3. Eliminates and prevents soot and combustion deposit.
4. Inhibits corrosion, rust, and electrolysis.
5. Assures clean, bright flame; minimizes smoke.
6. Helps prevent "puff-backs," offensive odors, irregular operation.
7. Keeps tank and lines clean; avoids clogged strainers and burners.
8. Non-explosive; free from acid, soda ash, alkali, or sediment.
9. Developed, manufactured, and fully guaranteed by Gamlen Chemical Company.

HEATING EQUIPMENT AND FUEL OIL DEALERS

Sell Gamlenol and reap these benefits—(1) Make an *extra* profit on *every* service call; (2) reduce complaints and expensive trouble-shooting free servicing; (3) build customer satisfaction and goodwill.

Your customers are conscious of the fuel oil shortage. They are ready, willing, and eager to use Gamlenol. Tell them about it—sell them on it—now.

●

Gamlenol costs the home-owner only 2c to 3c per day to treat the oil used in the average burner. This moderate cost is more than made up by the savings effected —and you, the dealer, make an extremely good profit markup to cover the service you render.

●

Write for Bulletin 470

JOBBERS AND DISTRIBUTORS WANTED

Desirable districts still open. Wire or write for particulars.

GAMLEN CHEMICAL COMPANY

1469 SPRING GARDEN AVENUE - PITTSBURGH 12, PA.
195 SAN BRUNO AVENUE - SAN FRANCISCO 3, CALIF.
11 BROADWAY - - - NEW YORK 4, N.Y.

Manufacturers of Fuel and Labor Saving Chemicals For More Than a Quarter of a Century

teed Fuel Savings campaign, initiated during the latter portion of last year, which is to be continued. Field representatives were taken on a tour of the factory to inspect new machinery, production lines and other facilities.

Taco Offers Free Use Of Two Sound Slide Films

TWO SOUND SLIDE FILMS, produced by Taco Heaters, Inc., New York 17, N. Y., are available free of charge to the industry. Arrangements to borrow either or both films can be made through the firm's main office, or through any authorized representative. Where the size of the gathering will warrant it, a Taco field engineer will cooperate with the organization sponsoring the showing, by conducting the meeting and a question and answer discussion after the films have been shown.

"The Four Aces," the first of the slide films, expounds advantages of radiant warmth from radiators, convectors, baseboards and panels. Story revolves around a new salesman, who first obtains from his boss a solid, factual background and then employs the proper arguments and correct examples to sell a forced hot water system to a home builder.

"Better Heating—Better with Taco" deals first with a complete visual explanation of the I-B-R method of figuring radiation and, by reviewing the entire Taco line, along with some new data, illustrates how to lay out and install a Taco-One forced hot water system and water heater.

AVAILABLE Now Shipments
FROM STOCK!
TROUBLE-FREE SERVICE
Dongan Transformers have long been used on leading makes of oil burners. For long life and dependable service, you can't beat a Dongan! Listed as standard by Underwriters' Laboratories.
DONGAN ELECTRIC MFG. CO.
2981 Franklin Detroit 7, Mich.
The Dongan Line
Since Nineteen-Nine
WRITE FOR LITERATURE
DONGAN
TRANSFORMERS

Ambitious Advertising Plans By Perfection Stove For 1948

TO CELEBRATE its 60th year in business, Perfection Stove Co., Chicago, Ill., this year will provide its dealers with its most ambitious package of sales promotional aids. The company presented a preview of its plans at a recent national sales convention and revealed that eighteen trade magazines will carry Perfection advertising on six or twelve months schedules. In addition, consumer advertising will appear in forty-four publications, totaling 157 insertions. McCann-Erikson, Inc. will prepare and place the advertising.

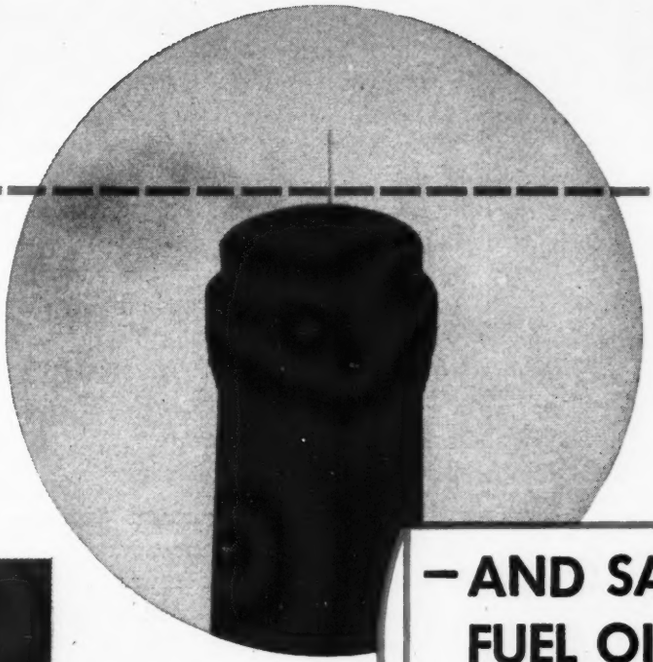
Another anniversary offering is a twenty-minute color motion picture, titled "Search," featuring a tour of Perfection's new engineering research center. A forty-page brochure, to be made available to dealers, supplements the film. Additional dealer helps include a life-size cut-out display piece for Perfection and Ivanhoe range and cook stove dealers, a set of six "Pixies" to point up sales features, home heat cut-out display, water heater stand-up piece, an action display of a Multi-Heat burner with Midget pilot, catalogs, booklets, folders, wall hangers and envelope stuffers.

Bell & Gossett Meetings Stress Sales, Engineering

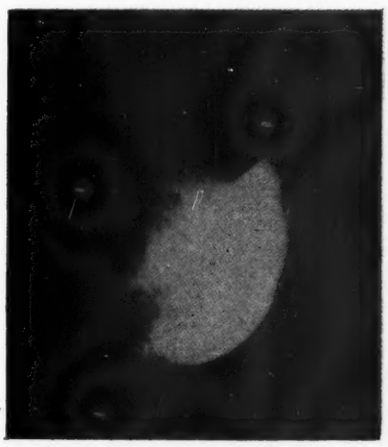
DURING THE LATTER PART of 1947, Bell & Gossett Co., Morton Grove, Ill., conducted a series of sales training schools, designed to promote constructive selling by teaching its sales representatives how to handle engineering problems encountered in the application of B & G products. The first meeting, for eastern representatives, was held at the Robert Treat Hotel, Newark, N. J., followed by a school for south and southwestern

LOOK

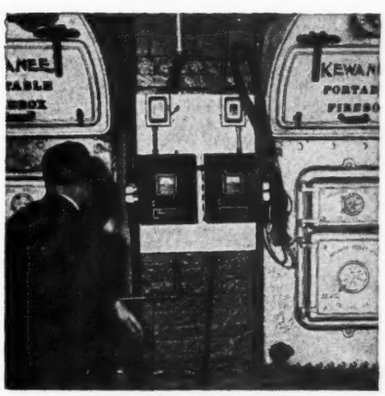
AT YOUR
STACK
LOOK AT YOUR
FIRE—



—AND SAVE FUEL OIL WITH *Robot-Eye*



A ball of flame—no sparks—no dark spots —and 20% less oil with Robot-Eye.



Robot-Eye panel indicates combustion conditions. No complicated accessories needed.

Black smoke or a perfectly clear stack is positive proof that you can save fuel oil with Robot-Eye. Sparks or dark spots in the fire prove it again.

Robot-Eye continuously looks across your boiler flue and when necessary adjusts the air door automatically day in and day out, to meet ever changing conditions of barometer, wind, fuel oil temperature and viscosity, boiler load or any other varying conditions. The door opens wide for a clean start—closes tight when burner is off to prevent "refrigeration"

Robot-Eye saves 10 to 20% of the fuel consumed in boilers using manual, semi-automatic or fully automatic burners using No. 5 or No. 6 oil. No smoke nuisance to offend neighbors—frequent cleaning of tubes and walls is eliminated. Howard *Stores* saves 14.9% of fuel oil, 565 West End Avenue *Apartment* saved $900 a year for seven years, Park Crescent *Hotel* saves 11.7%, and Harvey Hubbell, Inc. saves 20%.

Robot-Eye is endorsed by leading Fuel Oil and Oil Burner experts and approved by Underwriters' Laboratories. Ask for Bulletin.

GENERAL POWER PLANT CORPORATION

381 FOURTH AVENUE
NEW YORK 16, N. Y.

MANUFACTURERS OF—

Robot-Eye

AUTOMATIC ELECTRONIC COMBUSTION CONTROL

representatives at the Tutwiler Hotel, Birmingham, Ala. The final sessions, held at the Georgian Hotel, Evanston, Ill., provided training for middlewestern representatives.

Instructions in all schools were given by W. A. Boone, assistant sales manager; L. Oosten, assistant chief engineer; Frank Gall, sales engineer, air cooling equipment div.; Ralph Janetz, pump design engineer; L. L. Arbuckle, manager, refrigerating equipment div. Ralph Patterson, general sales manager, conducted the series.

Create New Division To Handle Ingersoll Unit

A NEW DIVISION, in charge of Roy C. Ingersoll, vice president, Borg-Warner Corp. and president, Ingersoll Steel Div., has been established to intensify manufacturing and selling of the Ingersoll Utility unit. Mr. Ingersoll will be president of the new division, which will be implemented to carry on manufacturing, sales and service operations for Ingersoll-controlled products, classified as consumer goods, while the parent division will retain its extensive contract manufacturing business.

The Utility unit is a factory assembly of household utilities, fixtures and appliances, including oilheating. Direct management will be assumed by Robert S. Ingersoll, and all key personnel in the handling of the unit will be transferred to the new division. Effective January 5, a six-story building at 321 Plymouth Court, Chicago, was occupied to consolidate functions.

Webster Thermodrive Topic At Detroit Warm Air Meeting

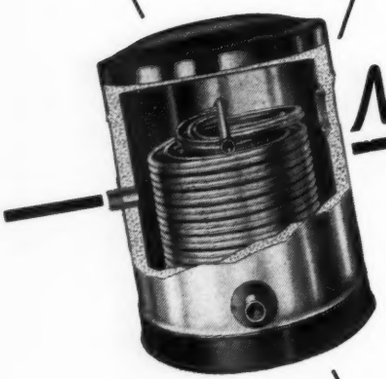
FEATURED ATTRACTION at a recent meeting of the Detroit Warm Air Heating and Air Conditioning Association was a discussion of Thermodrive, variable speed pulley, made by Webster Electric Co., Racine, Wis. B. T. Weichers, assistant sales manager, conducted the presentation. He was assisted by Louis Ehrich, service manager, and by William G. Boales & Associates, Webster's Detroit representative.

Purpose of the presentation was to explain the operating principles of Thermodrive in forced warm air heating systems, and to introduce a new merchandising kit. The latter contains all components and parts necessary to convert existing heating plants to variable speed blower operation. The presentation was considered timely in view of current interest in continuous, low speed blower operation when the burner is off and automatically increased speeds during period of burner operation.

Jones & Brown Conference Plans For 1948 Sales

THE LARGEST sales conference ever held by Jones & Brown, Inc., Pittsburgh, Pa., national distributors of Inselbric, Inseltone, Ko-Z-Aire winter air conditioners and multi-speed blower controls, was held at Atlantic City, January 8 to 10. New products and models were shown to the twenty-seven regional field representatives who attended. A presentation of sales, merchandising and advertising plans for 1948 also was made.

E. N. Rosenthal, president, sounded the keynote of the session by expressing confidence in the future of the business.



PATENTED

COPPER IS ENDURING

Nothing Like it on the Market

IMITATED? . . . Yes—but the ALL-COPPER Tankless Heater originated by G&C can't be duplicated—has never been equalled —is still the *only* one of its kind! . . . Here are the features that make it superior:

It's ALL-COPPER—with boiler water shell of Heavy Gauge Copper—patented manifold construction produces maximum heat transfer with minimum pressure drop—constant up-flow of heated water through coils allows use of circulation line—aquastat connection in every heater—heavily insulated—Duco finish. . . .

For ample hot water at all times *without trouble*—for Guaranteed installations in homes of 1 or 100 apartments, always use

THE G & C ALL-COPPER TANKLESS HEATER

Contact your jobber now or write to us.

Manufacturers of large capacity hot water generators and storage tanks

GERSTEIN & COOPER CO.

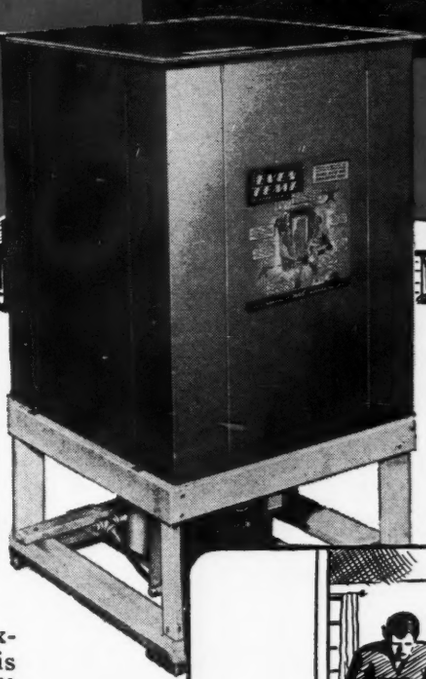
for 42 years

1-3 WEST 3rd ST., SO. BOSTON, MASS.

THE HOUSE OF HIGH GRADE COPPER PRODUCTS

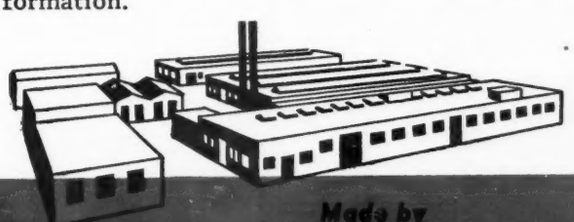
THE CHOICE OF *Experience*

NORWESCO
EVEN TEMP
OIL FLOOR FURNACE



Like hundreds of other experienced heating dealers, this Indianapolis firm features Even-Temp Oil Floor Furnaces! Their reasons? Even-Temp is more efficient, better made, easier to install, and gives better performance than any floor furnace they ever sold! There are lots of other reasons, too, all of them to the advantage of Even-Temp dealers. Begin *now* enjoying the sales and profits that can be yours with Even-Temp. Write today for full information.

Even-Temp is a complete packaged unit, wired and assembled, ready to install. Requires minimum floor space, minimum installation time, minimum servicing. Even-Temp floor furnaces as well as space heaters, are available in a complete range of sizes.



PLEASE ADDRESS
DEPT. F

Made by
NORTHWEST *Metal* PRODUCTS inc.
MANUFACTURERS • • • • • 55 SPOKANE ST. • • • • • SEATTLE 4, WASHINGTON, U.S.A.

Round table discussions on sales and promotional plans were conducted by Gordon C. Estes, general manager; C. J. Land, general sales manager and P. M. Hutchins, manager of advertising and sales promotion.

Nu-Way Launches Campaign In National Magazines

AN ADVERTISING CAMPAIGN to promote sales of oilburning products has been launched by Nu-Way Corp., Rock Island, Ill. O. K. Gipple, vice president and sales manager, announced the campaign would appear in leading national home magazines over an eight month period this year. Advertisements planned will emphasize the company name, product features of the Nu-Way gun type oilburner and refer the reader to the local heating contractor who handles the line.

Advantages of oilheating will be stressed and featured will be the space-saving accomplished by elimination of the coal bin. L. W. Ramsey Advertising Agency, Davenport, Iowa, has been named to prepare the campaign.

Armstrong Expanding Plant; Names New General Manager

WITHIN THE PAST SIX MONTHS Armstrong Furnace Co., Columbus, Ohio, has completed and now is occupying a new 350,000 sq. ft. plant, designed especially for efficient steel furnace production. Main plant and general offices are located in the new building, augmented by subsidiary production facilities all over the country. It has been announced also that ground preparation for an addition of approximately 100,000 sq. ft. to the new plant is under way and when completed, almost ten acres of plant facilities will be under one roof.

A recent meeting of Armstrong board of directors elected Larry Hickock, vice president and general manager. He formerly acted as sales manager and serves now with Don H. Kinnan, president and John Norland, secretary-treasurer.

Clean Sweep Co. Lists Ten Sales Representatives

TEN SALES REPRESENTATIVES are functioning for Clean Sweep Co., South Lansing 9, Mich., according to a recent announcement by E. D. Stevens, sales manager. The company manufactures Clean Sweep soot destroyer, which is handled by the following, in their respective areas: F. M. Eversden & Associates, Inc., Philadelphia; Buffalo Heating Service Buffalo, N. Y.; John Hammond, Jr., New York 17, N. Y.; Bell Pump Service, Hartford and New Haven, Conn. and Springfield, Mass.; D. C. Timmons & Son, Charlotte, N. C.; Granse Corp., St. Paul, Minn.; Nelson Supply Co., Seattle; Phillips Steel Co., Albuquerque, N. M.; E. G. Koyl, Winter Park, Fla. and W. W. Watson, Detroit.

McDonnell-Miller Announces Winners of Prizes

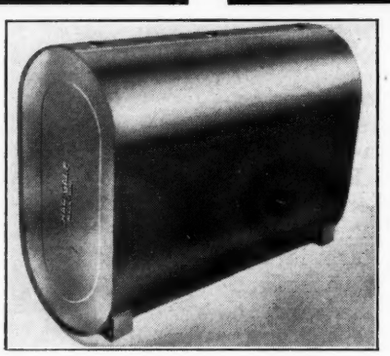
THE TRADITIONAL DRAWING for winners in the Sweepstakes conducted by McDonnell & Miller, Inc., Chicago 11, Ill., was held on Christmas Eve and prizes were awarded to five fortunate ticket holders. First prize went to Carl Sahler, Thatcher Furnace Co., Garwood, N. J.; second prize to F. Williams, Williams

*CHAR—GALE

"Lifetime" Aluminum Tank

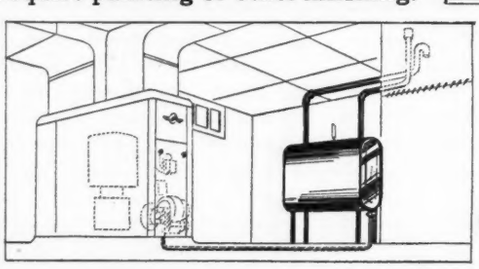
AS A FUELOIL TANK

This "Lifetime" aluminum tank is entirely rustproof and is so light in weight that it can be easily lifted by one man or carried with ease by two. It has a capacity of 265 gallons and is equipped with standard openings and brackets for legs. It may be used either indoors or outdoors and does not require painting or other finishing.

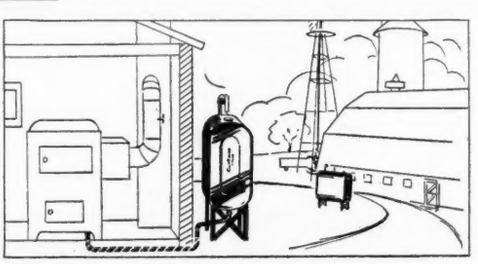


MULTIPLE USES ON THE FARM

This tank may be used for fuel for furnaces or space heaters in house or outbuildings. It is also ideal for storage of any liquid indoors, or for outdoor storage of gasoline, kerosene, liquid insecticides, tractor oils, and other non-freezing liquids.

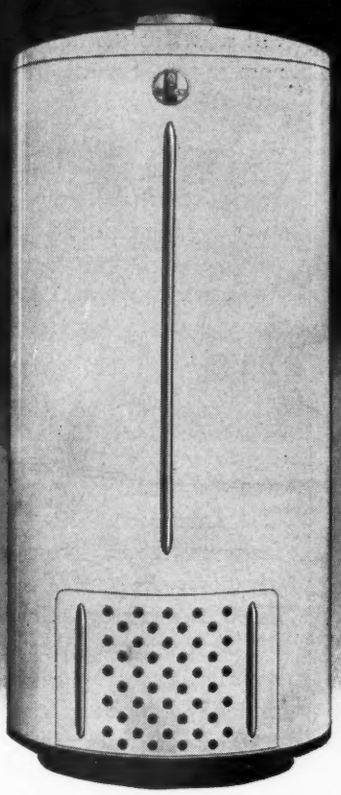


Available NOW!
Write for Prices.
ORDER FROM YOUR NEAREST CHAR-GALE PLANT.



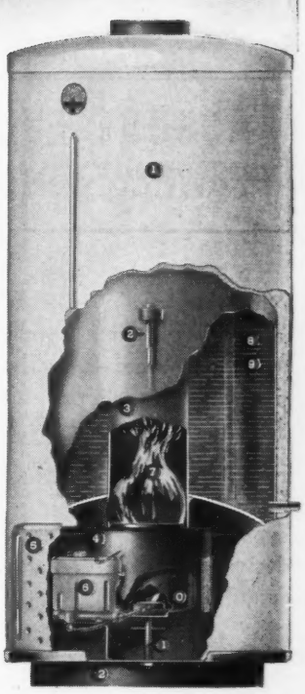
*CHAR—GALE MANUFACTURING CO.
MINNEAPOLIS OMAHA

NEW *Streamlined Beauty*



GILLEN again shows the way in Water Heater design. Smartly streamlined, with casing of gleaming white baked enamel trimmed in stainless steel, the GILLEN has a beauty all its own. This outstanding beauty, combined with up-to-the-minute engineering, gives GILLEN the greatest customer-appeal of any Oil-Burning Water Heater on the market. So . . . for easier sales and greater profits, sell the GILLEN Automatic Oil-Burning Water Heater—the Water Heater that Sells Itself!

IMMEDIATE DELIVERY!
Write for literature and prices today



FEATURES THAT HELP YOU SELL!

1. Easy-to-clean baked white enamel casing, trimmed with stainless steel.
2. "Magic Pilot" Oil Control, with built in anti-flooding device, gives matchless economy.
6. Oil Control enclosed within casing, making it tamper-proof, accident-proof. Makes heater more compact and easier to keep clean.
7. Swirling-action flame concentrates heat at base of flue casing for greatest heating efficiency.
8. Thick jacket of Fiberglas insulation on top and sides saves heat and gives faster recovery.
9. Magnesium alloy anode rod with special current-limiting resistor prevents rust and corrosion, prolongs tank life.
10. New Low-draft Burner. Fire is not affected by variable drafts, but burns evenly and constantly at all stages.

J. L. GILLEN CO.
202 E. HIGH STREET DOWAGIAC, MICHIGAN

Bros. & Miller, Inc., East Chicago, Ind.; third to Douglas Clucas, George D. Clucas, Inc., Buffalo, N. Y.; fourth award to H. F. Seltzer, National Radiator Co., Washington, D. C., and fifth prize to C. C. Craft, Iron Fireman Mfg. Co., Cleveland, Ohio.

Apollo Distributing Co. Handling Coleman Heaters

APPOINTMENT of Apollo Distributing Co., Newark, N. J., to act as wholesale distributors for the line of oilfired heaters made by Coleman Co., Inc., Wichita 1, Kan., has been announced. Sid Thompson heads the firm's new heating division, with Lou Blair as his assistant. Mr. Thompson has merchandised heating equipment since 1920, and most recently, managed the heating division for Igoe Bros., Newark, N. J. He also has held positions with American Nokol Corp. and General Electric Co. Mr. Blair will be district manager in five counties of Apollo's territory.

The establishment of a heating division supplements the other lines of domestic appliance which the company handles.

Standard Heater Appoints Eastern Representatives

HEATING BOILER DIV., Standard Heater & Oil Equipment Co., Jersey City, N. J., has appointed representatives to service dealers and other outlets in two eastern areas. Charles F. Hurst, Scranton, Pa., who recently terminated his connection with the War Department to resume activity in the heating equipment field, will represent the division in the eight northeastern counties of Pennsylvania and the Binghampton area of New York.

In the thirteen eastern counties of Pennsylvania, the entire state of Delaware and the eight counties of southern New Jersey, Albert C. Masche, Philadelphia, has been named. He will be assisted by his associates, Ralph M. Sprowles and William D. Means.

Brundage Opens New Research Laboratory

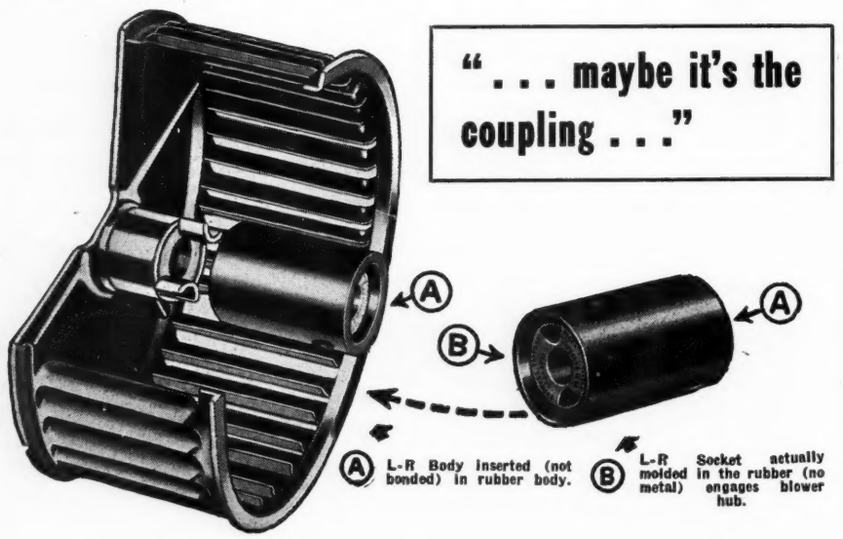
THE ENGINEERING STAFF of Brundage Co., Kalamazoo, Mich., blower manufacturers, moved into a new research laboratory the first of the year. Established in a nearby building, owned by the company, the laboratory will concentrate on development and improvement of products and testing equipment.

The laboratory was opened in December during the company's first national sales conference, attended by thirteen representatives and members of the Kalamazoo staff. Actual occupation of the laboratory, however, did not take place until later. In 1948 Brundage will engage exclusively in manufacturing. When organized in 1919, the company handled construction contracts, and has just completed the final one.

Jack & Heintz Produces Millionth Electric Motor

THE MILLIONTH electric motor produced by Jack & Heintz Precision Industries, Inc., Cleveland 1, Ohio, came off the company's Berea Road Plant assembly lines on January 9. There was no suspension of manufacturing operations to permit completion ceremonies and work proceeded without interruption.

The company entered the electric motor field in May 1946, producing only



"... maybe it's the coupling ..."

ASSURE EVEN POWER FLOW...

LOVEJOY L-R Type CX Double-flex Flexible Couplings

With the Lovejoy L-R Type CX Double-flex flexible coupling, you know that drive and driven units are accurately aligned. You know that the coupling is right. Misalignment, whip, shock, surge, backlash, etc., are effectively controlled.

Type CX Double-flex is especially designed for oil heaters and air conditioning units.

- Can't fall off when blower and pump units are serviced.
- Easily installed in dark or close quarters.
- Quiet—no rattle.

SEND TODAY FOR BULLETIN 520 ON THIS COUPLING

OHI

LOVEJOY FLEXIBLE COUPLING CO.

5012 W. Lake Street • Chicago 44, Ill.

WEBSTER ELECTRIC

Thermodrive KIT NOW AVAILABLE

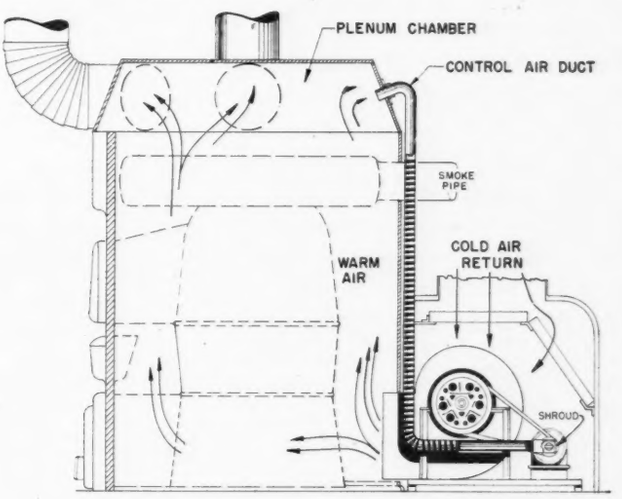
for an easy conversion to variable speed blower operation in existing warm air heating plants

KIT CONSISTS OF THE FOLLOWING ITEMS

1. Thermodrive Pulley—Replaces present drive pulley on blower motor. Automatically and continuously adjusts blower speed in accordance with heat being produced by furnace. Comes with ⅝″ shaft hole, with bushing to reduce to ½″ where necessary to fit motor shaft.
2. Tension Blower Pulley—A new split-sheave, spring-loaded pulley which replaces present blower pulley. Designed especially for use with Thermodrive, it eliminates the need for idler pulley or other device for taking up belt slack, thereby greatly simplifying installation. Comes with 1″ shaft hole, with bushings to fit ⅝″, ¾″ and ⅞″ blower shafts.
3. Control Air Duct—1½″ flexible steel conduit for bringing the warm air sample from the plenum chamber to the Thermodrive. Supplied in 7′ length to take care of maximum run encountered.
4. Shroud—Fits onto the lower end of control air duct to direct warm air flow onto the Thermodrive bellows, and shield it from the cold air return-flow.
5. Mounting Flange—For fastening top end of control air duct to furnace casing where it enters plenum chamber.
6. Hanger Iron—For anchoring control air duct.
7. All necessary bolts and self-tapping screws.
8. Installation Instruction Bulletin.

Thermodrive May Be Used on Modern Forced Air or Converted Gravity Feed Warm Air Furnaces

Thermodrive is designed to coordinate continuously fan speed with bonnet temperatures in forced warm air heating systems so as to give more even room temperatures, more comfort and greater efficiency. Thermodrive pulley replaces present drive pulley and increases fan speed as bonnet temperature increases. Speed increases can be as much as 65 percent from low to high. The off-cycle operation is reversed, and fan continues at decreasing speeds until cut-out temperature on bonnet control is reached. A warm air "sample" is continuously drawn from the bonnet and discharged over a thermostatic bellows, which in turn actuates a sliding sheave of a split pulley. This changes its effective diameter and results in either increased or decreased speed of the fan.



WRITE FOR LITERATURE AND SURVEY FORMS FOR PLANNING INSTALLATIONS

Few Parts Mean Simple Easy Service

All three—Webster Electric Fuel Units, Webster Electric Transformers and Thermodrive—are the products of engineers that are oldtimers in the heating field. Webster Electric's reputation for producing top quality products has resulted in these three items being widely accepted by the trade. They are built to give you justified confidence when you incorporate them in new equipment or when you use them for replacement.

WEBSTER RACINE **ELECTRIC** WISCONSIN

Established 1909

Export Dept.: 13 E. 40th Street, New York 16, N. Y. Cable Address "ARLAB" New York City

"Where Quality is a Responsibility and Fair Dealing an Obligation"

Gov. Green Asks Illinois Fuel Saving

FUEL CONSERVATION in Illinois will become a continuing voluntary effort from January 15 to March 1, according to a proclamation by Governor Dwight Green, issued January 15. In a series of "Fuel Conservation Weeks" to run until the first of March, the Governor urged the wholehearted support of the public and all state and municipal officials in an effort to avoid hardship in the "American tradition of accomplishment through cooperative effort."

A "Governor's Fuel Conservation Committee" was appointed at a Chicago meeting January 15, with Carl R. Jonswold, representing the Burning Oil Distributors Association, as chairman, and Norman Radder of Plumbing & Heating Industries Bureau, as secretary. Other members of the committee include Marc Bluth of Stoker Manufacturers Association; M. J. Cassidy representing the gas industry; Frank Donovan of Chicago Coal Merchants Association, Warren Harris of the University of Illinois, W. A. Matheson representing oilburner manufacturers, and Harry G. Schaffer of Chicago Oil Burner Association. The committee will advise on publicity and promotion of fuel conservation.

An attractive 3 x 6 in. folder has been prepared by the State for distribution through trade channels as an envelope stuffer outlining "12 Easy Things to Do." Emphasis is given to those fuel-saving points which the homeowner can do for himself without appreciable cost. The folder also carried the proclamation by the Governor.

In contrast to most of the state fuel conservation efforts, the Illinois set-up is relatively free of the bureaus and commissions that other governors have established to investigate and take official action on fueloil. Recognizing that the transportation bottleneck affects all fuels, the proclamation is aimed to conserve all fuels for all applications.

Governor Green's proclamation outlined the need for fuel saving; told of the increasing demand and the shortage of transportation, though suppliers were doing all in their power to increase fuel supplies. The Governor then asked that:

"All householders take prompt action to ascertain what measures they may pursue to reduce the costly waste of fuel in their own homes through the proper use of insulation, expert adjustments of heating plants and regulating devices, and similar means.

"All heating fuel dealers exercise care and diligence in the supplying of correct fuels, and in their storage, and that corrective measures be indicated to householders using an excess of fuel to the end that every degree of comfort be accommodated with all possible economy.

"All heating equipment dealers provide every possible assistance to householders by means of proper installations, accurate instructions, and necessary renovation of heating units to the end that all possible protection be provided to them at lowest cost and at the greatest saving in fuel.

"All public officials extend complete cooperation to such measures as are undertaken in the local communities to conserve fuel supplies through voluntary action, rather than by compulsory governmental restrictions, and finally, the entire emergency program be carried out in the American tradition of accomplishment through cooperative effort in the public interest."

Canada Voluntarily Reduces Imports

THE CANADIAN GOVERNMENT, through its Washington Embassy, has informed the Department of Commerce of a voluntary reduction in imports from the United States of finished kerosene, stove oil, furnace and Diesel oil. The petroleum industry of Canada has agreed to reduce its imports of these products to 50%, or less, of the monthly average in the first quarter of 1947. The reduction, effective January 1, continued through the month of January, at which time the Canadian Department of Reconstruction and Supply, in cooperation with the Canadian petroleum industry, reviewed the country's petroleum position with a view to making even greater reductions during the months of February and March.

Under the limitations, the import of these petroleum products from the United States during January will be reduced to a rate not to exceed 6,000 barrels a day.

In an earlier announcement, the Rt. Hon. C. D. Howe, Canada's Minister of Reconstruction, stressed that it was of the utmost importance that consumers heed suggestions by their oil suppliers to conserve. Mr. Howe referred to a statement he made last May 9 in the House of Commons, in which he drew attention to the fact that a serious shortage in the supply of fueloil was developing. Steps taken by the industry and oilburner manufacturers to limit demand for fueloil were effective, he said, but shortages have developed elsewhere in the world, particularly the United States.. Substantial quantities of petroleum products being imported from the United States represented a drain on Canada's dollar reserves and the public was aware of the government program to conserve dollar reserves. Mr. Howe concluded that it was apparent now that all users would have to do everything possible to conserve fueloil to avoid serious hardship.

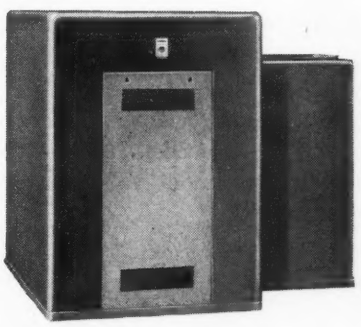
Stuart D. Watson has been promoted to assistant advertising manager, Standard Oil Co. (Ind.). He joined the company in 1939 as an advertising clerk in the South Bend sales field and, after returning in 1946 from Army service as an infantry Captain, he acted as executive assistant to the advertising manager at Chicago.

Jacob C. Plattner has become chief product engineer, Hart-Heat Div., Avery Co., Peoria, Ill. He will have charge of a newly-organized department for development of new Hart automatic heating, and will adapt improvements to present products. Mr. Plattner's previous experience includes ten years at Caterpillar Diesel's Peoria, Ill. plant.

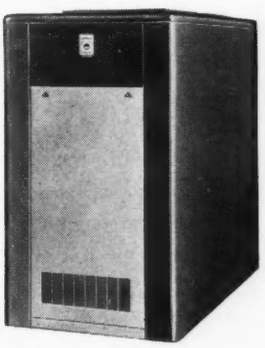
"I figure we're too near the same height and weight for either of us to be to blame"

Warm Air Furnaces!
Winter Air Conditioners!

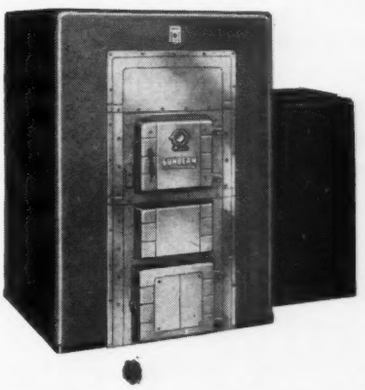
You can find just what you need in the complete SUNBEAM line by AMERICAN-Standard



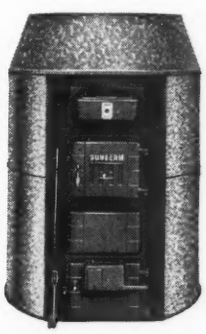
WESTMORELAND Oil Fired Winter Air Conditioner. For homes of virtually any size. It is designed to perform as a completely coordinated oil heating unit with the Arcoflame Oil Burner, or to give efficient service with any other standard pressure atomizing burner. Made in 6 sizes with capacities at the register ranging from 105,000 to 330,000 Btu.



SARATOGA Winter Air Conditioner. A modern low-priced oil fired unit for small homes. Features heating element of heavy boiler plate steel with riveted and welded seams. Compact jacket encloses blower-filter unit and heating element . . . also provides space for Arcoflame or other quality burner.



ALLERTON Winter Air Conditioner. A fine quality, low cost unit, skillfully engineered for efficient, economical performance. Features include rugged, heavy steel heating element and ample radiator of riveted and welded construction; jointless, leakproof ash pit; duplex grate. Burns coal (hand fired or stoker) or oil.



ARLINGTON Warm Air Furnace. Heating element and extra large radiators are of heavy boiler plate steel. Has full height fire pot and duplex grate. Made in 20″, 22″, 24″ and 27″ shell diameters. The Arlington "Square" is an attractively jacketed furnace with the same fine construction features. Both units burn coal (hand fired or stoker) or oil.

CLIFFDALE Winter Air Conditioner. For coal (hand fired or stoker) or oil. Has steel heating element. Radiator and head are of riveted and welded leakproof construction for long life and efficient service. Inner jacket provides insulation that helps reduce heat loss, keeps jacket cool and saves fuel.

CLIFTON Warm Air Furnace. Combining all the features needed for efficient, economical service, this rugged gravity furnace has welded and riveted leakproof steel heating element, "V" type baffle, duplex grate, extra large fire pot, and one-piece shell. For coal (hand fired or stoker) or oil.

■ Once again you can be sure of quality and of customer satisfaction when you sell warm air heating. As a result of accelerated American-Standard production, more and more of these nationally famous Sunbeam products are ready for you. For details of the complete line, contact your Wholesale Distributor.

American Radiator & Standard Sanitary Corporation, P. O. Box 1226, Pittsburgh 30, Pennsylvania.

AMERICAN-Standard

First in Heating and Plumbing

LOOK FOR THIS MARK OF MERIT—It identifies the world's largest line of Heating and Plumbing Products for every use . . . including Boilers, Warm Air Furnaces, Winter Air Conditioners, for all fuels—Water Heaters—Radiators, Convectors, Enclosures—Gas and Oil Burners—Heating Accessories—Bathtubs, Water Closets, Lavatories, Kitchen Sinks, Laundry Trays, Brass Trim—and specialized products for Hospitals, Hotels, Schools, Ships and Railroads.

Industry Group

Activities of local and national industry associations are reported monthly in this department. Secretaries are invited to send reports of their Group's activities to reach the editor by the 20th.

Set Dates For Warm Air Mid-Year Convention

AN ANNOUNCEMENT from headquarters, National Warm Air Heating and Air Conditioning Association, Cleveland 14, Ohio, reveals that the mid-year convention has been booked at the Edgewater Beach Hotel, Chicago, June 28 and 29. Those who plan to attend are urged to make hotel reservations now, since the usual influx of summer visitors to the hotel is expected to cut down considerably the number of rooms available. An outline of the convention program is being prepared and will be announced in a few months.

New York Old Timers at Frolic During Show Week

OIL HEAT OLD TIMERS, a local New York group of men at least 15 years in the oilheating industry, put on a Stag Frolic at the Park Central Hotel, New York, February 3, for 300 members and guests. A cocktail hour was followed by a roast beef dinner and entertainment sufficiently varied to please everybody.

The Frolic Committee, consisting of the board of directors, was made up with plenty of false whiskers and eye shadow to mark them as old old-timers.

For the first time members were permitted to entertain guests at the association's party. Previous functions have been for members only, but the frolic during the week of the Heating and Ventilating show was opened to visitors from out of town.

API Issues Booklet, Advertising Matter

A NEW BOOKLET, "Plain Talk on Oil Today" has been prepared and issued by American Petroleum Institute, New York 19, N. Y., as part of its program to gain public support in the conservation of oil. Intended for wide public distribution, it urges careful conservation by all users to provide enough oil for all as the industry proceeds with its expansion program. It explains that Americans today are consuming more oil than was required by the entire world only ten years ago, more than was needed at any time during World War II and that current United States consumption amounts to twenty-eight times as much oil per person as all the rest of the world. A portion of the booklet details the industry's four billion dollar program of facilities expansion and points out that until the wells, pipelines, refineries, and storage plants embodied in the program are completed, the industry is soliciting the aid of the public in implementing a conservation program.

Suggested spot radio announcements, together with advertising and other material, comprise the latest package being furnished by API's Public Relations Operating Committee to district committees. The package consists of nine spot radio announcements, a suggested letter to local radio stations, a series of seven newspaper advertisements, a two-page fact sheet on conservation and four radio commercials. A two and five minute appeal for conservation also have been furnished for distribution to Chambers of Commerce and other civic organizations. The program is further being backed up by a suggested letter for fueloil dealers to send to their customers, urging their participation in conservation efforts.

Industry Dinner-Rally Planned In Milwaukee

FINAL DISCUSSION of plans for the annual industry dinner-rally, sponsored by the Wisconsin Oil-Heat Association, Inc., Milwaukee 2, Wis., was on the program of the Association's regular monthly meeting held January 29. Arranging details for the dinner, to be held February 27, was only one of several important subjects on the agenda. The meeting discussed the fueloil supply situation and what has been done to improve the situation and heard further information on establishment of a Code of Fair Practices. Advertising proposals for 1948 and participation of the group and

(*Continued on page 94*)

The camera *catches New York Old Timers, and their guests, in a "sober," sedate mood. 'Twas taken with a high-speed lens!*

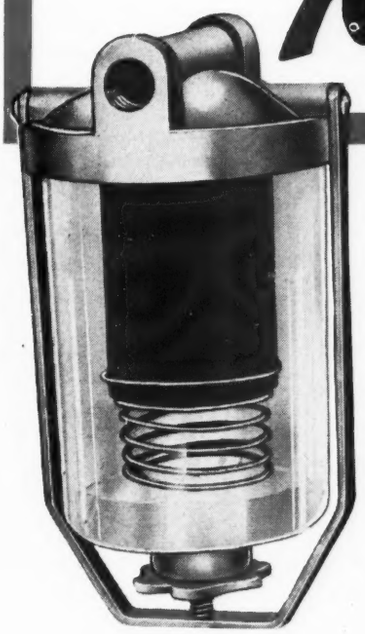
SAFEGUARD

BURNER PERFORMANCE *with*

Chemistone

THE ORIGINAL CONTROLLED POROSITY ELEMENT

EXCLUSIVE IN *Klemm* FUEL OIL FILTERS



Glass Bowl Models

FF-201 . . . 1/4"
FF-230 . . . 3/8"
JR-60 . . . . 1/4"
JR-62 . . . . 1/8"

Metal Bowl Models*

FF-430 . . . 3/8"
FF-401 . . . 1/4"
JR-80 . . . . 1/4"
JR-82 . . . . 1/8"

**Listed by Underwriters' Laboratories, now available in all sizes.*

MODERN DESIGN

These streamlined, ultra modern filters harmonize in appearance with the finest heater installations.

PROVED IN USE

Soundly engineered, Chemistone element assures 100% filter action. Thousands of users testify to its high efficiency.

EASY TO INSTALL

No tools or wrenches are required. This simplifies cleaning—a quick, easy operation.

PACKAGED RIGHT

Convenient dealer cartons—12 of a model—or assorted. Stock easily... Ship safely.

PRICED RIGHT

Attractive price aids faster sales. You enjoy a liberal margin on every sale.

Avoid unnecessary emergency calls. Install a Klemm Fuel Oil Filter on *every* oil burner you service. This eliminates preventable burner stoppages. Your customers get uninterrupted heating comfort. *You profit twice on every sale*—first a good margin on the filter . . . then, a happier customer. A Klemm Filter insures a constant flow of clean, trouble-free oil. It stops dirt, sediment, abrasives and other harmful foreign matter from reaching the burner. New small size is now available for space heaters, ranges, hot water heaters, etc.

Klemm AUTOMOTIVE PRODUCTS COMPANY

1718 North Damen Avenue **Chicago 47, Illinois**

Export Division: **Guiterman Co., Inc., 35 S. William St., New York 4, N. Y.**

its members in this year's Home Show also were considered.

The Association sponsored a second advertisement on January 4 in the Milwaukee *Journal* to acquaint the public with the facts on the why and wherefore of the local fueloil situation. The advertisement listed fifteen steps for the homeowner to take to improve his heating system and conserve oil. It repeated the caution, first published in a similar advertisement which appeared June 15, 1947, for all who contemplate converting to oilheating to determine beforehand from a reputable fuel dealer that he can supply the new installation.

I-B-R Reviews Results Of Advertising Campaign

A BROADSIDE, published by Institute of Boiler and Radiator Manufacturers, New York 17, N. Y., is being sent to contractors, dealers and distributors of hot water and steam heating equipment to acquaint them with the results of the consumer advertising campaign begun by the Institute a year ago, which it is planned to continue on a long-range program.

Backbone of the campaign is an illustrated consumer booklet, "Enjoy Better Living With Radiant Sunny Warmth," which is offered to dealers and contractors at nominal fees and offered to consumers in advertisements in magazines such as, *Better Homes and Garden, The American Home, House Beautiful, House and Garden, Small Homes Guide.* In addition, free window posters are sent to dealers with each order for booklets. To date, the Institute reports, more than 100,000 copies of the booklet have been distributed, as a result of the consumer advertising and trade promotion.

Boston Group Hears Talk On Nozzles

A FEATURE of the 150th meeting of the Massachusetts Oil Heating Association, Boston, Mass., held January 27, was a talk on oilburner nozzles by Eugene O. Olson, Delavan Engineering Co., Des Moines, Ia. Mr. Olson's treatment of the subject stressed the importance of the nozzle in the original installation and discussed servicing and maintenance problems.

Honorary Secretary-Treasurer Fred Beckwith rendered his usual report on industry conditions and problems. Meetings for the balance of the season are scheduled to be held on the third Tuesday of each month.

Ask I-B-R Members To Return Scrap Quickly

CARROLL M. BAUMGARDNER, chairman of Institute of Boiler and Radiator Manufacturers, and executive vice president, United States Radiator Corp., Detroit, Mich., has revealed that all plants of the company and subsidiaries are scrapping inactive and obsolete patterns and equipment and are channeling this scrap metal to their own cupolas for remelting or making it available to dealers.

Mr. Baumgardner has addressed an appeal to other members of the Institute to take immediate action toward speeding the return of scrap metal to dealers. The plea is in line with the request of Secretary of Commerce Harriman, who, acting for executives of major steel producing companies, requested industry's cooperation to direct greater supplies of scrap toward the furnaces.

Sheet Metal Group Holds Minnesota Convention

ITS FIRST ANNUAL CONVENTION was held January 16 and 17 at the Nicollet Hotel, Minneapolis by the Roofing and Sheet Metal Contractors Association of Minnesota. The sessions opened on January 16 with a general meeting and ended on the 17th with a business meeting, at which officers were elected and installed for the coming year. In between, meetings were held to discuss the Taft-Hartley Act, accounting and tax problems, trade relations, education and ethics, apprenticeship and labor. Social functions included a banquet and cocktail hour the first day, luncheons on both days between convention sessions.

Oregon Meeting Set By Willamette Valley Group

A MEETING of dealers in the Willamette Valley area is being sponsored by Oregon Fuel Merchants Association, Portland 4, Ore. The gathering is scheduled to be held February 21 and is the first session in this area, which consists of Eugene, Lebanon, Albany, Salem and Corvallis. C. R. Holloway, Jr., Harry Norquist, Bill Alexander, Harry Williams, all Portland, will be speakers. Jim McNesby, Corvallis, is chairman of the meeting, which will be held in the Benton Hotel, Corvallis.

Elmira, N. Y. Dealers Discuss OHI Chapter

PLANS for the organization of an Elmira, N. Y. area chapter of Oil-Heat Institute of America, Inc., were discussed at a meeting held in Elmira in December. Charles D. Stempfle, Stempfle Electric Co., was chosen temporary chairman.

Speakers included Joseph A. Collins, Buffalo, national chairman and A. E. Whitehill, national secretary, OHI Distribution Division.

Spencer, Honorary Chairman Of Board, B. O. D. A.

IN RECOGNITION of his fourteen years continuous efforts on behalf of the Burning Oil Distributors Association, Chicago 4, Ill., Frank E. Spencer, Socony-Vacuum, was unanimously named honorary chairman of the board. The action was taken at the time new officers were elected by the group at its annual meeting, as reported on page 190, January issue, FUELOIL & OIL HEAT.

Laube Named To Head OHI of Rochester, N. Y.

AT A MEETING of the board of directors, Oil-Heat Institute of Rochester, N. Y., G. Fred Laube, president, Laube Electric Corp., was elected president of the Institute. Other officers named at the same time are William W. Gordon, vice president; Arie Redeker, secretary and Fred R. Huberlie, treasurer.

◈

C. W. *Haseltine,* vice president, secretary and treasurer, Mack Trucks, Inc., New York, N. Y., retired December 31, ending a thirty-five year career with the company. He joined Mack as bookkeeper and statistical clerk in 1912 and was appointed secretary and treasurer in 1918. Coincident with the announcement of this retirement, it is revealed that *F. W. Sommer* has been named treasurer and *T. W. Homan,* secretary.

WINKLER challenges any Oil Burner

to *Match these Tests!*

A truly sensational advance! The Winkler ***LP**** Oil Burner introduces a kind of performance never seen before—presents features which amaze the experts! The tests described below will change your conceptions of oil burner efficiency.

The Winkler ***LP**** Burner maintains a constant fuel-air ratio with any grade of oil and under the most adverse conditions. Among its design features are —

1. **Non-clogging nozzle.**
2. **Exclusive air cone stabilizer.**
3. **Positive metering of fuel oil regardless of viscosity.**

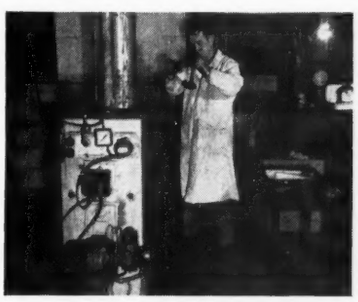
Burning rates from ¾ to 1½ GPH make this burner adaptable to small installations, eliminating the waste of over-sized fires. In addition, the Winkler ***LP**** burns catalytically cracked oils as efficiently as any other kind.

Write at once for complete information.

DISTRICT MANAGERS WANTED

Winkler's expanded program in merchandising automatic heating equipment requires additional field managers. This is an outstanding opportunity for experienced high grade men to make substantial earnings in franchised territories. Write today, giving full information on your qualifications.

THE NEW WINKLER *LP
OIL BURNER**
LOW PRESSURE



Fuel-Air Ratio Test

A standard No. 1 fuel oil was burned in a ¾ GPH Winkler ***LP**** Oil Burner, adjusted to burn cleanly and produce 11% CO_2 in the flue gas.

Without further adjustment, a No. 3 fuel oil was substituted. No change was noted in the CO_2 analysis and the fire remained absolutely clean.

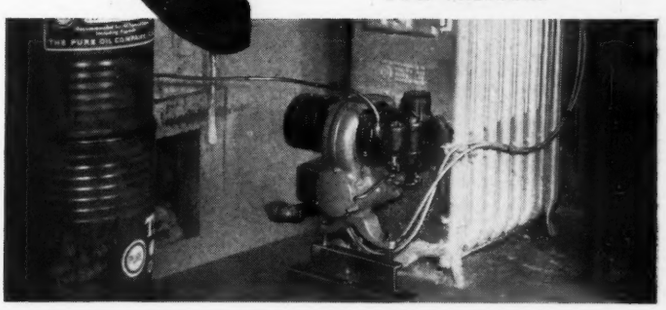
Again, without adjustment, a standard No. 3 industrial 100% catalytically cracked, untreated fuel was substituted. The fire remained clean and the CO_2 reading increased to 11½%.

Finally, an unrefined, black crude was fed to the burner, still without adjustment. The CO_2 reading was 11½% and the fire clean.

Water Test

Water was dripped into the oil line of a 1 GPH Winkler ***LP**** Burner at the rate of ¼ gallon per hour and the test continued for one hour. At no time was the fire extinguished and the unit operated satisfactorily when manually started and stopped at frequent intervals.

This test further indicates the matchless ability of the Winkler ***LP**** to handle low grade fuels, containing not only impurities but slugs of water.



Dirty Oil Test

A standard production ¾ GPH Winkler ***LP**** Oil Burner was installed in an Arcola boiler located in an automotive service station. All crank case, transmission and rear axle drainings obtained by the service station were burned in the Winkler ***LP****, actually heating the building. No filter or dirt trap was used.

The burner received oil other than waste oil only when the waste supply was low, in which case No. 4 fuel oil was added—estimated to be less than 20% of the total oil burned.

The test was run for 60 days during which approximately 1000 gallons of oil were burned. During the test the burner needed no adjustment whatever. CO_2 content of the flue gas was 11% at the start of the run and was found to be 11% at the end of the run. Absolutely no smoke or soot was formed and at the end of the test the inside surfaces of the boiler were chalky white.

The burner fuel unit was then disassembled and found full of dirt consisting of sand, carbon, steel chips and sludge. Even under this extreme condition the burner operated perfectly and the nozzle was found clean and unobstructed.

THE WINKLER *Econo-Flame*

A radically improved design in high pressure burners. Features the Deflecto-Air principle—maintains correct mixture of oil and air for complete combustion—ends sooty, uneven firing and noisy operation.

WINKLER

Automatic Heating Equipment

U. S. MACHINE CORPORATION, Dept. AL-37, Lebanon, Indiana

fuel oil & oil heat

Manufacturers Activities

Fitzgibbons Honors Employees; Appoints Three Representatives

FIFTEEN employees of Fitzgibbons Boiler Co., Inc., New York 17, N. Y., were honored for their long terms of service on December 9 at a dinner held in Oswego, N. Y., home of the Fitzgibbons plant. Presentation to the employees of emblems denoting twenty-five, twenty, fifteen and ten year service continued a practice started last year at the company's 60th anniversary celebration. Presentations were made jointly by Homer Addams, chairman of the board, Paul K. Addams, president and Ray C. Malvin, vice president and general plant manager. Other company officials in attendance included: John A. Darts, vice president; Gustav E. Olsen, vice president and manager of metropolitan New York sales; and Earle E. Hoefer, plant superintendent.

Homer Addams, *left, presents emblem to Sydney Tucker, commemorating his twenty-five years of service with Fitzgibbons.*

Twenty-five-year emblems were awarded to Oscar F. Noss, assistant sales manager; Sydney Tucker, chief engineer; Neil Askew, master mechanic and George Norton, chief carpenter. Mr. Homer Addams in his talk to the men stressed the importance of loyalty, the significance of a company name and how that name could hold a reputation through years of unblemished progress.

John R. Collete, manager of field sales, announced recently the appointment of three new sales representatives. In Washington, D. C., the A. S. Nugent Co. has been appointed to cover that area; the Lynn Co. will represent the company in the Columbus, Ohio area and R. Dudley Densmore has been named in Rochester, N. Y. to concentrate on residential boiler sales.

Jersey Standard Name Becomes "Esso Standard"

ESSO STANDARD OIL CO. is the new name of the former Standard Oil Company of New Jersey, eastern operating company of the Standard Oil Company (N. J.). The company has used the Esso name since 1925 when it was first applied to premium grade gasoline, and in recent years has expanded use of the trade mark and name to cover most other products. The company operates as a refiner and marketer in 18 states from Maine to Louisiana including the District of Columbia.

Plan Extensive Promotion For Century Engineering

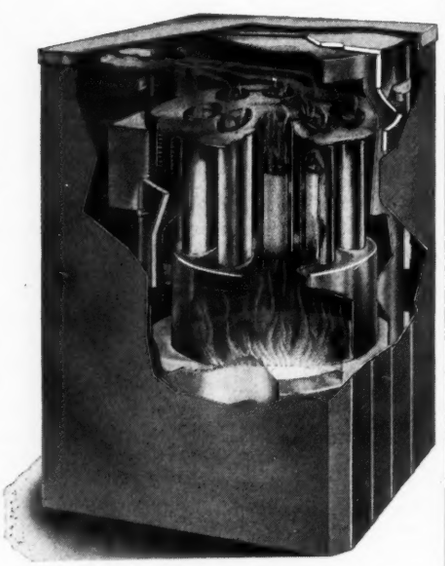
AN "ALL OUT" sales promotion campaign is planned for 1948 by Century Engineering Corp., Cedar Rapids, Ia., with the announced intention of making Century products the best known

YOUR BEST BUY IN '48...

ACME DUAL 8

HIGH EFFICIENCY BOILER-BURNER UNIT

The amazing high efficiency of the Acme Dual "8" is due to the engineered design of the Stainless Steel intensifier tubes... which not only act as baffles but also radiate to the heating surfaces of the boiler tubes additional heat taken from the central gases which usually pass on to the chimney as waste. Their design also tends to maintain the same high temperature throughout the length of the tubes thereby producing much faster heating with a greatly reduced fuel consumption.



Beautiful, streamlined green wrinkle finished cabinet with chrome trim. Top covers easily removed for cleaning. Tankless water heater; removable type, 240 G.P.H. High Pressure boiler flues. Blanket insulation, 1½ in. rockwool. Heavy steel fire-box.

All accessories are conveniently and efficiently located on one side of the boiler making installing and servicing a simple task. The cabinet can be assembled after all piping has been completed.

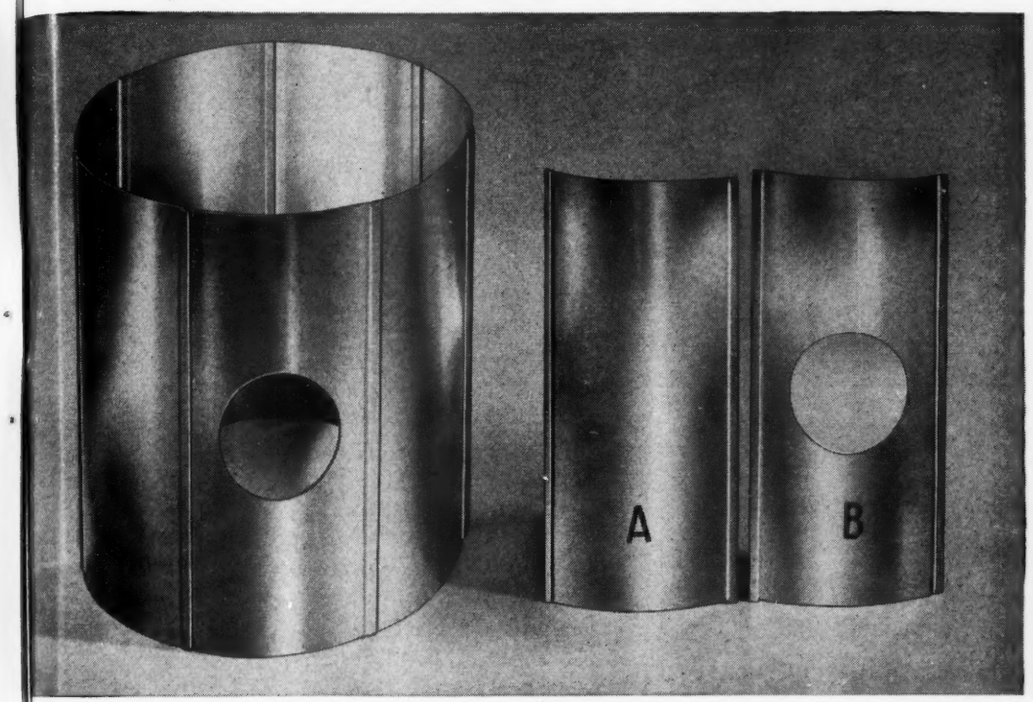
Fast heat! Fast sales! Could you ask for anything better! Exclusive territories are still open for New Dealer Outlets. Write today for catalog and full details. Check the facts and you'll feature the Acme Dual "8" in '48.

ACME TANK AND WELDING

DIV. THE UNITED TOOL & DIE COMPANY

1031 NEW BRITAIN AVE. ELMWOOD, CONN.

NEW! REVOLUTIONARY!



Patent Applied For

HEAT-RESISTANT STAINLESS STEEL **PANELOX** **COMBUSTION CHAMBER FOR OIL BURNERS**

Gives You All These Advantages

MORE SALES • BETTER NET PROFIT • EASIER INSTALLATIONS
LESS TIME REQUIRED PER JOB • SMALLER STOCKS
GREATER CUSTOMER SATISFACTION

Gives Your Customers What They Want

Take a good look at the new Heat-Resistant Stainless Steel PANELOX Combustion Chamber. You're seeing the most amazing and efficient combustion chamber ever developed for domestic oil burners. It looks simple—and it is. Yet years of engineering experience—years of scientific experiment with designs and materials—went into its development. Check its features and advantages—see for yourself why it's in a class by itself. Then write, wire or phone for prices and further details.

PROVIDES INSTANTANEOUS COMBUSTION. The new, amazing PANELOX Combustion Chamber reflects heat instantly—heats up in *seconds.* No minutes-long warm-up period. That means complete, efficient combustion the minute the burner comes on. Customers *like* that.

ELIMINATES "BLOW-TORCH" STARTING ROAR—Cause of most oil burner noise complaints. Proper combustion, *right from the start,* is what does the trick. Customers like *that.*

ELIMINATES TURBULENCE NOISES during burner operation. No dead air spaces, no rough surfaces, to set up noisy flame turbulence. Customers like *that,* too.

PAYS FOR ITSELF in fuel savings. Instant combustion means less heat *up the chimney*—more heat *doing a heating job.* More BTUs from every gallon—fewer gallons required. Customers like *that.*

ELIMINATES SMOKE, SOOT AND OILY FILM caused by inefficient combustion. Proper burning means *clean* burning. And customers like *that.*

PROVIDES BETTER ROOM TEMPERATURE CONTROL—by eliminating override. Burner starts heating as soon as it comes on. No wide variations in room temperature due to override. Customers like *that.*

Inquiries invited from Manufacturers' Agents.
Several good territories still open.

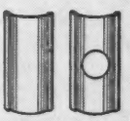
STEFCO STEEL COMPANY
HEATING EQUIPMENT DIVISION • MICHIGAN CITY, INDIANA

Check These Outstanding

PANELOX

Features

HEAT-RESISTANT STAINLESS STEEL. Highest in chromium content, it is exceptionally heat- and corrosion-resistant. Not affected by sulphur-bearing oil. Withstands temperatures up to 2150°F. Thoroughly tested and proved under actual operating conditions.



ONLY TWO TYPES OF INTERLOCKING PANELS. With the two types of panels shown, you can speedily form any size or shape chamber required. "A" panels are standard. "B" panels have openings to accommodate 4-in., 5-in., or 6-in., burner guns. Panels are 6¾ in. by 14½ in.

INTERLOCKING SEAMS PREVENT WARPING. Note how the panels interlock at the seams—an exclusive feature with the PANELOX. Easily joined by sliding one interlocking edge over another. Those interlocking seams add great rigidity and structural strength. And see that clean interior? No dead spaces there to cause operating noise.

LIGHT IN WEIGHT—EASY TO HANDLE—NO BREAKAGE. Panels required for the average combustion chamber weigh only about 8 pounds. And the panels nest together so they're easy to handle. No breakage in shipment, handling or installation.

NO BACKFILL INSULATION! NO CEMENTING! NO TOOLS! Installation couldn't be easier. No tools required in assembling and installing. No backfill insulation or refractories needed. No cementing of any kind. Speeds up every job—cuts labor cost way down.

LOW INVENTORY—LOW FREIGHT COST. No need to stock several sizes. The two types of panels make any size or shape combustion chamber. And the light weight means exceptionally low shipping cost.

and most wanted brand of oilfired heating equipment. E. J. Lattner, president of the company, in revealing the plans, explained that the campaign would concentrate on selling the Century name to consumers and also to publicize the individual Century dealer in each community.

It is planned to use every effective medium available, including newspapers, radio, billboards, car cards, direct mail, dealer displays, coupled with an advertising campaign to be placed in national magazines.

H. C. Little Display Pieces Available To Dealers

THREE DISPLAY PIECES, recently completed by H. C. Little Burner Co., San Rafael, Calif., and made available to its dealers, have been prepared in full color, designed to present the most important features of units so that the casual shopper obtains a complete sales story. The same features are helpful to a retail salesman as a selling tool. A secondary feature of the displays covers uninteresting portions of the equipment

Display *unit featuring standard register floor furnace. Others show wall furnaces and vaporizing conversion burners.*

with attractive messages and dramatizes application of the units to specific home heating problems.

Displays were prepared on oilfired floor furnaces, dual register wall furnaces and vaporizing conversion oilburners. Flexibility in these point-of-purchase pieces permits the dealer to set them up as an integrated unit, in his window or show room, or arrange them separately to suit his own needs.

Minneapolis-Honeywell Starts Sales Conventions

A TRAVELING sales convention, which will reach more than one thousand field personnel in a series of gatherings scheduled for seven cities, has been inaugurated by Minneapolis-Honeywell Regulator Co., Minneapolis 8, Minn. The meetings will be of three-days duration and began with a series in Minneapolis on January 16, which covered all salesmen in the northwest regional division. Succeeding meetings will be held in San Francisco, January 22 to 24; Dallas, January 29 to 31; Chicago, February 6 to 8; Cleveland, February 9 to 11; New York, starting February 13 and Toronto, February 16.

Main purpose of the gatherings, according to Tom McDonald, vice president in charge of sales, is to review sales activity and outline expanded sales plans for 1948. The meetings will be addressed by Harold W. Sweatt, president, and all other home office executives. The field sales organization will be brought up to date on most of the automatic controls

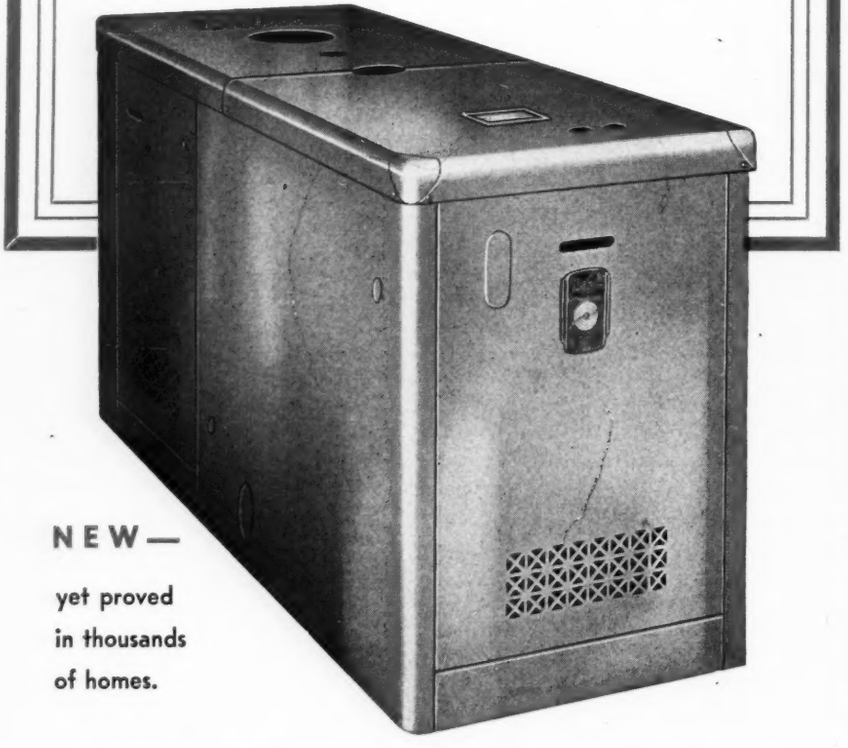
The Bethlehem DYNATHERM

with the MONEY-SAVING, FUEL-SAVING

"Whirling Flame"

is within reach of every home owner regardless how modest the budget!

IT TURNS EVERY LAST DROP OF OIL INTO USEFUL HEAT!



NEW—

yet proved in thousands of homes.

The Bethlehem Dynatherm comes to you completely equipped with everything, ready for installation except the piping. It's as simple, automatic as an electric refrigerator. Built by a century-old organization of broad experience in oil heating.

A few exclusive Bethlehem Dynatherm territory Franchises are still available. Wire or write immediately for full information.

THE BETHLEHEM FOUNDRY & MACHINE COMPANY

BETHLEHEM, PENNSYLVANIA

field "Always the Pace Setter"

FIRE TENDER

Saroil

HEATCRAFT

THE WILLIAMSON HEATER COMPANY

Quick Heat

Custom-Aire

Toridaire

has won the recognition of the leaders in the heating equipment industry. The famous names shown at the left are those of just a few of the many outstanding manufacturers of nationally known heating equipment who use FIELD draft controls. This widespread acceptance of Field barometric draft controls for all types of heating and cooking products is based on their proved-by-test superiority in actual performance.

FIELD DRAFT CONTROLS... *The "Best for the Finest"*

Coal, oil and gas-fired Furnaces and Boilers; Winter air conditioners; Space heaters; Stoves; Ranges; Water heaters.

The National Warm Air Heating and Air Conditioning Association recommends a good barometric draft control.

FIELD CONTROL DIVISION

H. D. CONKEY AND COMPANY • MENDOTA, ILLINOIS

the company makes and salesmen will see for the first time many of the new controls the company plans to announce during the coming year. Many of the latter will be electronic devices for domestic and commercial heating and air conditioning applications.

PEMCO Changes Name To Oil Equipment Mfg. Corp.

ANNOUNCEMENT has been made that the organization formerly known as PEMCO, Petroleum Equipment Mfg. Co., New Haven 6, Conn., has incorporated and changed its name to Oil Equipment Mfg. Corp. The firm manufactures and distributes oilburner accessory equipment, including King tank gauges, combustion chambers and baffles. In the new corporation Danial Kaufman is president; Arnold J. Alderman, secretary-treasurer.

Petro Making Use Of New Cessna Airplane

A NEW CESSNA 195 airplane recently has been placed in operation by Petroleum Heat & Power Co., Stamford, Conn., to facilitate contact between the home office and branch offices, field representatives and distributors throughout the country. The plane, replacing a smaller one which the company operated for 30,000 miles last year, is all-metal, with complete airline instrument equipment, including two-way radio and blind flying. It is piloted by Lt. John Lynch and operates out of the nearby Westchester County Airport. Load capacity is ample for the pilot, four passengers and normal baggage.

Cessna 195 plane being used by Petro to contact branch offices.

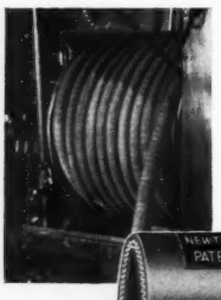
The plane's non-stop cruising range of 700 miles, cruising speed of 165 mph, puts the Chiacgo branch within four hours and thirty-five minutes flying time and Petro's refineries in Texas can be reached in a little longer time with one refueling stop. The plane's business utility is increased considerably by its ability to use small airports with short landing strips.

York-Shipley Inaugurates Multiple Management Plan

S. H. SHIPLEY, president, York-Shipley, Inc., York, Pa., explained to more than one hundred employees at a recent meeting the operation and reasons for adoption by the company of a multiple management program. Under the plan, which goes into effect immediately, four employee boards of directors are established to handle management problems and make recommendations to the corporation's senior board of directors. The employee boards will study all types of problems and forward unanimously-approved suggestions to the senior board for action.

The four boards are: administrative, representing office personnel; factory, representing plant management; sales, representing the company's sales divisions; Roosevelt, representing the Roose-

"NEWTYPE CORD"
THE *Six-Feature* HOSE
FOR EFFICIENT FUEL OIL SERVICE



Built to provide the basis for *increased profits* through important savings in delivery time and hose replacement costs.

1—Non-flattening, kinkproof construction . . . always *round*, on or off the reel.

2—Oilproof tube . . . no swelling and consequent reduction of original I.D.

3—*Always* a full capacity flow through entire length of hose.

4—Tougher, longer-wearing brown cover gives complete protection to entire hose.

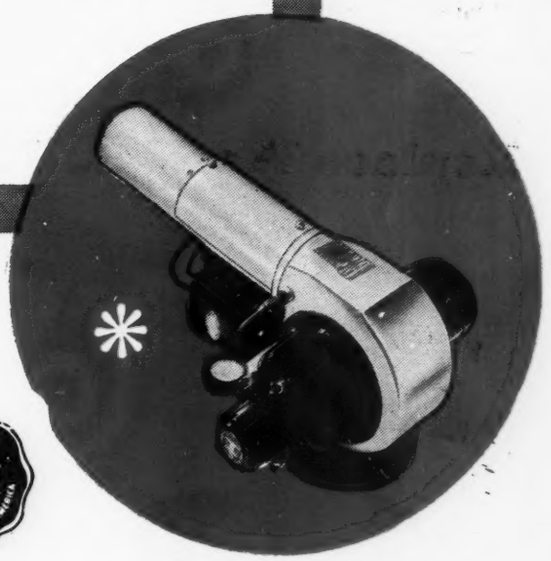
5—Quicker, time- and money-saving deliveries.

6—*Longer* hose life . . . *lower* hose costs.

Get *all* the facts about "Newtype Cord," now. Contact our nearest branch, or send for new illustrated folder.

GOODALL RUBBER CO., INC.
THE GOODALL-WHITEHEAD COMPANIES
Philadelphia • Trenton • New York • Boston • Pittsburgh • Chicago • St. Paul • Los Angeles
San Francisco • Seattle • Salt Lake City • Houston • Factory: Trenton, N. J. • Est. 1870

10 reasons why these SUN-RAY Models are attracting new dealers



1 **CAST-ALUMINUM FRAME** accurately machined—for positive concentric alignment, silent operation

2 **ALL PARTS** machine-ground to 0.001" tolerance, fitted by expert mechanics

3 **FUEL UNITS** by Webster or Sundstrand

4 **TRANSFORMER** heavy-duty—with built-in radio-interference eliminators

5 **MOTOR** Ohio or General Electric—with built-in overload protection

6 **AIR CONTROL** combines air diffusers with stabilizers of unique design for perfect mixing, quiet combustion, economy

7 **EACH BURNER** individually tested before it leaves the factory

8 **SIX SIZES** — ¾ to 25 g.p.h. — a model for every heating need

9 **PROFIT POTENTIAL** second to none — a full line of burners that has *everything*, plus full distributor cooperation

10 **RELIABILITY** — one of the oldest and largest oil burner manufacturers

INDEPENDENT
REG. U.S. PAT. OFF.
FULLY AUTOMATIC
OIL BURNERS

139-24 Queens Boulevard, Jamaica, N. Y.

Independent's SUN-RAY models are *the* burners to sell. They have everything—time-tested quality backed by 40 years of heating experience—highest quality parts and workmanship—every burner factory-tested for efficient operation before shipment—the approval of all leading authorities—satisfied dealers—complete dealer and distributor cooperation.

Look over the list of features, and you will see why these burners can be sold in competition with any other burner made.

**Illustrated: Model 2C12, rated 10 to 25 g.p.h., with twin ignition, twin nozzles, twin transformers.*

WRITE FOR FULL DETAILS

Independent Oil Burner Corporation
139-24 Queens Boulevard
Jamaica, N. Y.

Please send literature and full details on your SUN-RAY line of oil burners.

Name .....

Company .....

Address .....

City..... Zone..... State.....

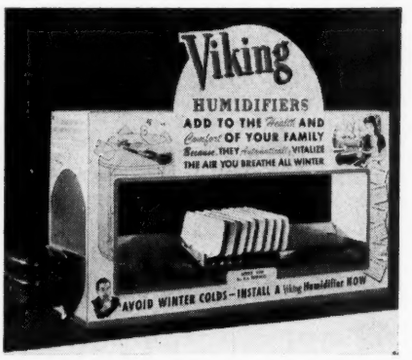
fuel oil & oil heat

velt Oil Service div., York area distributors of York-Shipley products. The members of the original boards were selected by Mr. Shipley on the basis of personal merit, but future boards will be selected by the employees on a merit rating basis. Extra compensation for board members will be voted every six months by York-Shipley directors.

The program has been fashioned after the multiple management plan of McCormick & Co., Baltimore, which has been operating successfully since 1932. Objectives of the program are to extend an invitation to employees to assist in company management, to give younger executives an opportunity to qualify for advancement, to give recognition of the capacity of younger men, to foster and develop human relations throughout the organization with the aim to provide maximum benefits to all employees in proportion to their contributions to the success of the company. Initiation of the program will be under the direct supervision of Alan Ross, assistant to Mr. Shipley.

Viking Offers New Humidifier Display

TO ASSIST dealers and jobbers in stimulating sales, Viking Air Conditioning


Viking
HUMIDIFIERS
ADD TO THE Health AND
Comfort OF YOUR FAMILY
Because THEY Automatically VITALIZE
THE AIR YOU BREATHE ALL WINTER
AVOID WINTER COLDS—INSTALL A Viking Humidifier NOW

Cardboard counter or window display shaped like plenum chamber.

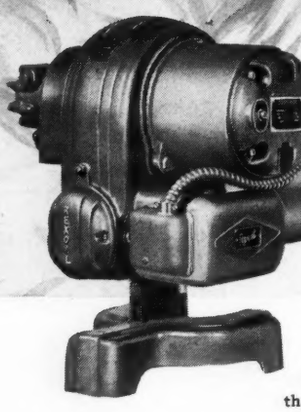
Corp., Cleveland 2, Ohio, has prepared a visual selling aid to demonstrate the Viking humidifier. Constructed of sturdy cardboard, the display measures 24" wide by 20" high by 9" deep, designed both for counter and window use. An actual humidifier is placed in the four-color display, which is shaped like a plenum. Units are shipped knocked-down, with directions for assembly.

Regional, District Managers Attend Timken Meeting

TWENTY-FIVE regional and district managers attended the annual meeting of executive and field sales representatives, Timken Silent Automatic Div., Timken-Detroit Axle Co., held in the Division's general offices at Jackson, Mich. The sessions were held from January 5 to 9, under the direction of T. A. Crawford, general manager, who complimented the group on the biggest and best year in the history of the Division. Walter F. Rockwell, president, addressed the assembly at a mid-week luncheon session, expressing confidence in the Division's ability to cope with future problems. W. J. Chappell, assistant sales manager; R. M. Marberry, advertising manager; E. H. Haugen, chief engineer and R. Campbell, factory manager, also were speakers.

The Division contemplates an aggressive program during 1948, utilizing every available sales, promotion and advertising weapon. Particular stress will be placed on the Timken Guaran-

Replace Worn out Flames with REXOIL'S FLAME of Flames



All-Ways YOU'RE RIGHT WITH Rexoil

A self-contained Ball of Fire that knows no equal—that's Rexoil's "Flame of Flames." It ignites immediately, without smoking,—without troublesome adjustments because of Rexoil's superior design and patented features. Quick cut off Fuel Hoarder, high heat Combustion Head and special Air Stream Turbulation System combine to give desired heat—faster, with real fuel saving economy. So thoroughly is the oil mixed with air before combustion begins that tomorrow's catalytic fuels will burn equally well . . . with equal savings.

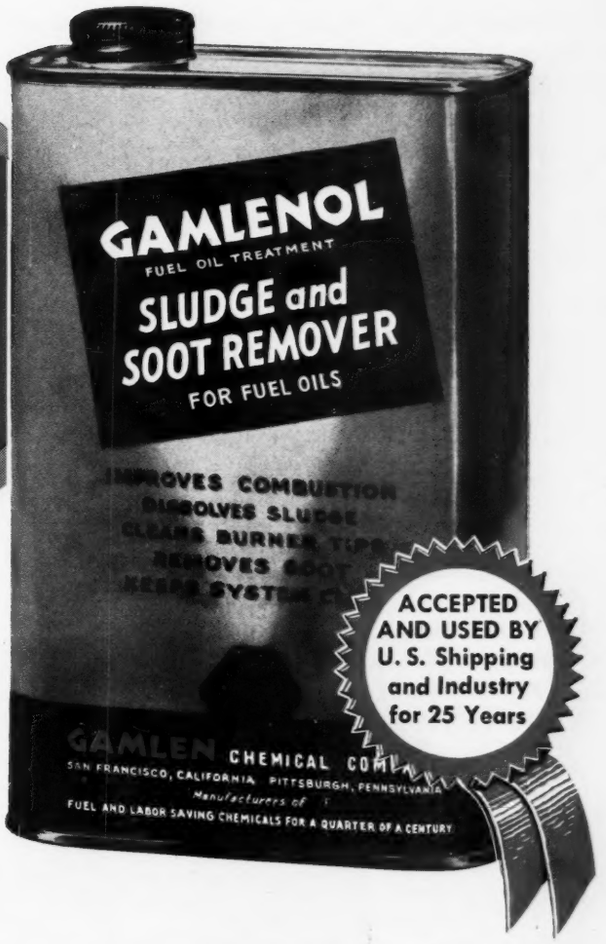
A Rexoil franchise is profitable business. Write to find out why you're "Right with Rexoil,"—All-Ways.

Rexoil

REIF-REXOIL, Inc.
37-43 Carroll St. Buffalo 3, N. Y.

PIONEERS IN THE OIL BURNER MANUFACTURING BUSINESS

NOW 50% PROFIT


GAMLENOL
FUEL OIL TREATMENT
SLUDGE and SOOT REMOVER
FOR FUEL OILS
ACCEPTED AND USED BY U. S. Shipping and Industry for 25 Years
GAMLEN CHEMICAL COMPANY
SAN FRANCISCO, CALIFORNIA PITTSBURGH, PENNSYLVANIA
Manufacturers of
FUEL AND LABOR SAVING CHEMICALS FOR A QUARTER OF A CENTURY

ON GAMLENOL SLUDGE *and* SOOT REMOVER

The Only Fuel Oil Treatment That Has All These 9 Goodwill-Building, Profit-Making Features!

1. Makes fuel oil flow freely, atomize properly, burn evenly.
2. Dissolves sludge; prevents its reaccumulation; disperses water condensation.
3. Eliminates and prevents soot and combustion deposit.
4. Inhibits corrosion, rust, and electrolysis.
5. Assures clean, bright flame; minimizes smoke.
6. Helps prevent "puff-backs," offensive odors, irregular operation.
7. Keeps tank and lines clean; avoids clogged strainers and burners.
8. Non-explosive; free from acid, soda ash, alkali, or sediment.
9. Developed, manufactured, and fully guaranteed by Gamlen Chemical Company.

HEATING EQUIPMENT AND FUEL OIL DEALERS

Sell Gamlenol and reap these benefits—(1) Make an *extra* profit on *every* service call; (2) reduce complaints and expensive trouble-shooting free servicing; (3) build customer satisfaction and goodwill.

Your customers are conscious of the fuel oil shortage. They are ready, willing, and eager to use Gamlenol. Tell them about it—sell them on it—now.

●

Gamlenol costs the home-owner only 2c to 3c per day to treat the oil used in the average burner. This moderate cost is more than made up by the savings effected —and you, the dealer, make an extremely good profit markup to cover the service you render.

●

Write for Bulletin 470

JOBBERS AND DISTRIBUTORS WANTED

Desirable districts still open. Wire or write for particulars.

GAMLEN CHEMICAL COMPANY

1469 SPRING GARDEN AVENUE - PITTSBURGH 12, PA.
195 SAN BRUNO AVENUE - SAN FRANCISCO 3, CALIF.
11 BROADWAY - NEW YORK 4, N.Y.

Manufacturers of Fuel and Labor Saving Chemicals For More Than a Quarter of a Century

teed Fuel Savings campaign, initiated during the latter portion of last year, which is to be continued. Field representatives were taken on a tour of the factory to inspect new machinery, production lines and other facilities.

Taco Offers Free Use Of Two Sound Slide Films

TWO SOUND SLIDE FILMS, produced by Taco Heaters, Inc., New York 17, N. Y., are available free of charge to the industry. Arrangements to borrow either or both films can be made through the firm's main office, or through any authorized representative. Where the size of the gathering will warrant it, a Taco field engineer will cooperate with the organization sponsoring the showing, by conducting the meeting and a question and answer discussion after the films have been shown.

"The Four Aces," the first of the slide films, expounds advantages of radiant warmth from radiators, convectors, baseboards and panels. Story revolves around a new salesman, who first obtains from his boss a solid, factual background and then employs the proper arguments and correct examples to sell a forced hot water system to a home builder.

"Better Heating—Better with Taco" deals first with a complete visual explanation of the I-B-R method of figuring radiation and, by reviewing the entire Taco line, along with some new data, illustrates how to lay out and install a Taco-One forced hot water system and water heater.

AVAILABLE Now Shipments
FROM STOCK!
TROUBLE-FREE SERVICE
Dongan Transformers have long been used on leading makes of oil burners. For long life and dependable service, you can't beat a Dongan! Listed as standard by Underwriters' Laboratories.
DONGAN ELECTRIC MFG. CO.
2981 Franklin Detroit 7, Mich.
The Dongan Line
Since Nineteen-Nine
WRITE FOR LITERATURE
DONGAN
TRANSFORMERS

Ambitious Advertising Plans By Perfection Stove For 1948

TO CELEBRATE its 60th year in business, Perfection Stove Co., Chicago, Ill., this year will provide its dealers with its most ambitious package of sales promotional aids. The company presented a preview of its plans at a recent national sales convention and revealed that eighteen trade magazines will carry Perfection advertising on six or twelve months schedules. In addition, consumer advertising will appear in forty-four publications, totaling 157 insertions. McCann-Erikson, Inc. will prepare and place the advertising.

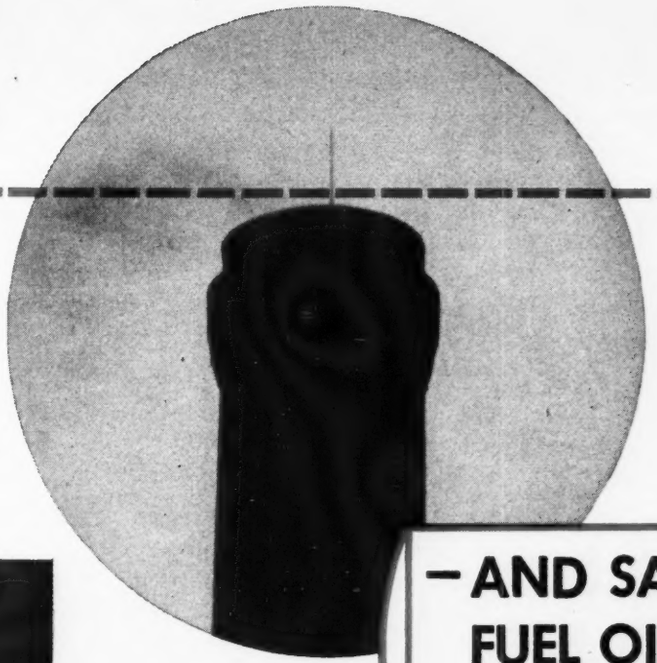
Another anniversary offering is a twenty-minute color motion picture, titled "Search," featuring a tour of Perfection's new engineering research center. A forty-page brochure, to be made available to dealers, supplements the film. Additional dealer helps include a life-size cut-out display piece for Perfection and Ivanhoe range and cook stove dealers, a set of six "Pixies" to point up sales features, home heat cut-out display, water heater stand-up piece, an action display of a Multi-Heat burner with Midget pilot, catalogs, booklets, folders, wall hangers and envelope stuffers.

Bell & Gossett Meetings Stress Sales, Engineering

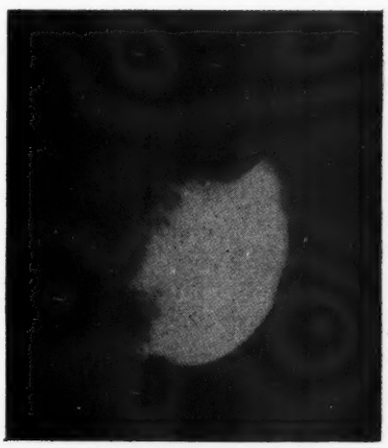
DURING THE LATTER PART of 1947, Bell & Gossett Co., Morton Grove, Ill., conducted a series of sales training schools, designed to promote constructive selling by teaching its sales representatives how to handle engineering problems encountered in the application of B & G products. The first meeting, for eastern representatives, was held at the Robert Treat Hotel, Newark, N. J., followed by a school for south and southwestern

LOOK

AT YOUR
STACK
LOOK AT YOUR
FIRE—



—AND SAVE FUEL OIL WITH *Robot-Eye*



A ball of flame—no sparks—no dark spots —and 20% less oil with Robot-Eye.

Robot-Eye panel indicates combustion conditions. No complicated accessories needed.

Black smoke or a perfectly clear stack is positive proof that you can save fuel oil with Robot-Eye. Sparks or dark spots in the fire prove it again.

Robot-Eye continuously looks across your boiler flue and when necessary adjusts the air door automatically day in and day out, to meet ever changing conditions of barometer, wind, fuel oil temperature and viscosity, boiler load or any other varying conditions. The door opens wide for a clean start—closes tight when burner is off to prevent "refrigeration"

Robot-Eye saves 10 to 20% of the fuel consumed in boilers using manual, semi-automatic or fully automatic burners using No. 5 or No. 6 oil. No smoke nuisance to offend neighbors—frequent cleaning of tubes and walls is eliminated. Howard *Stores* saves 14.9% of fuel oil, 565 West End Avenue *Apartment* saved $900 a year for seven years, Park Crescent *Hotel* saves 11.7%, and Harvey Hubbell, Inc. saves 20%.

Robot-Eye is endorsed by leading Fuel Oil and Oil Burner experts and approved by Underwriters' Laboratories. Ask for Bulletin.

GENERAL POWER PLANT CORPORATION

381 FOURTH AVENUE
NEW YORK 16, N. Y.

MANUFACTURERS OF—

Robot-Eye

AUTOMATIC ELECTRONIC COMBUSTION CONTROL

representatives at the Tutwiler Hotel, Birmingham, Ala. The final sessions, held at the Georgian Hotel, Evanston, Ill., provided training for middlewestern representatives.

Instructions in all schools were given by W. A. Boone, assistant sales manager; L. Oosten, assistant chief engineer; Frank Gall, sales engineer, air cooling equipment div.; Ralph Janetz, pump design engineer; L. L. Arbuckle, manager, refrigerating equipment div. Ralph Patterson, general sales manager, conducted the series.

Create New Division To Handle Ingersoll Unit

A NEW DIVISION, in charge of Roy C. Ingersoll, vice president, Borg-Warner Corp. and president, Ingersoll Steel Div., has been established to intensify manufacturing and selling of the Ingersoll Utility unit. Mr. Ingersoll will be president of the new division, which will be implemented to carry on manufacturing, sales and service operations for Ingersoll-controlled products, classified as consumer goods, while the parent division will retain its extensive contract manufacturing business.

The Utility unit is a factory assembly of household utilities, fixtures and appliances, including oilheating. Direct management will be assumed by Robert S. Ingersoll, and all key personnel in the handling of the unit will be transferred to the new division. Effective January 5, a six-story building at 321 Plymouth Court, Chicago, was occupied to consolidate functions.

Webster Thermodrive Topic At Detroit Warm Air Meeting

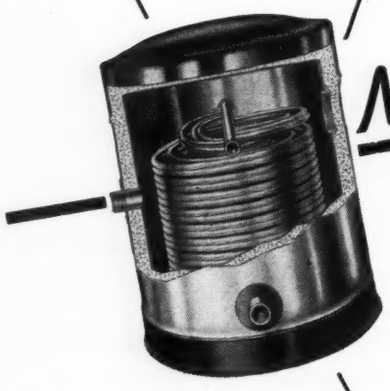
FEATURED ATTRACTION at a recent meeting of the Detroit Warm Air Heating and Air Conditioning Association was a discussion of Thermodrive, variable speed pulley, made by Webster Electric Co., Racine, Wis. B. T. Weichers, assistant sales manager, conducted the presentation. He was assisted by Louis Ehrich, service manager, and by William G. Boales & Associates, Webster's Detroit representative.

Purpose of the presentation was to explain the operating principles of Thermodrive in forced warm air heating systems, and to introduce a new merchandising kit. The latter contains all components and parts necessary to convert existing heating plants to variable speed blower operation. The presentation was considered timely in view of current interest in continuous, low speed blower operation when the burner is off and automatically increased speeds during period of burner operation.

Jones & Brown Conference Plans For 1948 Sales

THE LARGEST sales conference ever held by Jones & Brown, Inc., Pittsburgh, Pa., national distributors of Inselbric, Inseltone, Ko-Z-Aire winter air conditioners and multi-speed blower controls, was held at Atlantic City, January 8 to 10. New products and models were shown to the twenty-seven regional field representatives who attended. A presentation of sales, merchandising and advertising plans for 1948 also was made.

E. N. Rosenthal, president, sounded the keynote of the session by expressing confidence in the future of the business.



PATENTED

COPPER IS ENDURING

Nothing Like it on the Market

IMITATED? . . . Yes—but the ALL-COPPER Tankless Heater originated by G&C can't be duplicated—has never been equalled—is still the *only* one of its kind! . . . Here are the features that make it superior:

It's ALL-COPPER—with boiler water shell of Heavy Gauge Copper—patented manifold construction produces maximum heat transfer with minimum pressure drop—constant up-flow of heated water through coils allows use of circulation line—aquastat connection in every heater—heavily insulated—Duco finish. . . .

For ample hot water at all times *without trouble*—for Guaranteed installations in homes of 1 or 100 apartments, always use

THE G & C ALL-COPPER TANKLESS HEATER

Contact your jobber now or write to us.

Manufacturers of large capacity hot water generators and storage tanks

GERSTEIN & COOPER CO.

1-3 WEST 3rd ST., SO. BOSTON, MASS.

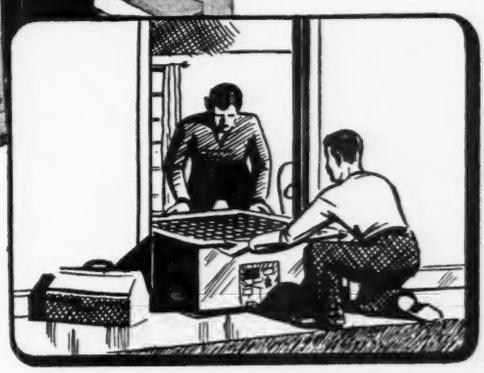
for 42 years

THE HOUSE OF HIGH GRADE COPPER PRODUCTS

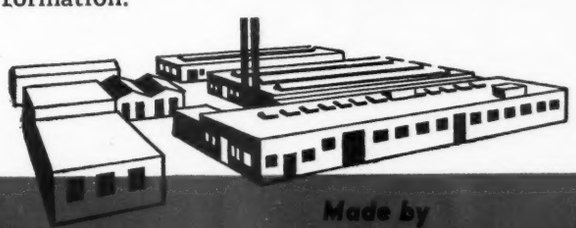
THE CHOICE OF *Experience*

NORWESCO **EVEN TEMP** OIL FLOOR FURNACE

Like hundreds of other experienced heating dealers, this Indianapolis firm features Even-Temp Oil Floor Furnaces! Their reasons? Even-Temp is more efficient, better made, easier to install, and gives better performance than any floor furnace they ever sold! There are lots of other reasons, too, all of them to the advantage of Even-Temp dealers. Begin *now* enjoying the sales and profits that can be yours with Even-Temp. Write today for full information.



Even-Temp is a complete packaged unit, wired and assembled, ready to install. Requires minimum floor space, minimum installation time, minimum servicing. Even-Temp floor furnaces as well as space heaters, are available in a complete range of sizes.



PLEASE ADDRESS DEPT. P

Made by

NORTHWEST *Metal* PRODUCTS inc.

MANUFACTURERS • • • • • 55 SPOKANE ST. • • • • • SEATTLE 4, WASHINGTON, U.S.A.

Round table discussions on sales and promotional plans were conducted by Gordon C. Estes, general manager; C. J. Land, general sales manager and P. M. Hutchins, manager of advertising and sales promotion.

Nu-Way Launches Campaign In National Magazines

AN ADVERTISING CAMPAIGN to promote sales of oilburning products has been launched by Nu-Way Corp., Rock Island, Ill. O. K. Gipple, vice president and sales manager, announced the campaign would appear in leading national home magazines over an eight month period this year. Advertisements planned will emphasize the company name, product features of the Nu-Way gun type oilburner and refer the reader to the local heating contractor who handles the line.

Advantages of oilheating will be stressed and featured will be the space-saving accomplished by elimination of the coal bin. L. W. Ramsey Advertising Agency, Davenport, Iowa, has been named to prepare the campaign.

Armstrong Expanding Plant; Names New General Manager

WITHIN THE PAST SIX MONTHS Armstrong Furnace Co., Columbus, Ohio, has completed and now is occupying a new 350,000 sq. ft. plant, designed especially for efficient steel furnace production. Main plant and general offices are located in the new building, augmented by subsidiary production facilities all over the country. It has been announced also that ground preparation for an addition of approximately 100,000 sq. ft. to the new plant is under way and when completed, almost ten acres of plant facilities will be under one roof.

A recent meeting of Armstrong board of directors elected Larry Hickock, vice president and general manager. He formerly acted as sales manager and serves now with Don H. Kinnan, president and John Norland, secretary-treasurer.

Clean Sweep Co. Lists Ten Sales Representatives

TEN SALES REPRESENTATIVES are functioning for Clean Sweep Co., South Lansing 9, Mich., according to a recent announcement by E. D. Stevens, sales manager. The company manufactures Clean Sweep soot destroyer, which is handled by the following, in their respective areas: F. M. Eversden & Associates, Inc., Philadelphia; Buffalo Heating Service Buffalo, N. Y.; John Hammond, Jr., New York 17, N. Y.; Bell Pump Service, Hartford and New Haven, Conn. and Springfield, Mass.; D. C. Timmons & Son, Charlotte, N. C.; Granse Corp., St. Paul, Minn.; Nelson Supply Co., Seattle; Phillips Steel Co., Albuquerque, N. M.; E. G. Koyl, Winter Park, Fla. and W. W. Watson, Detroit.

McDonnell-Miller Announces Winners of Prizes

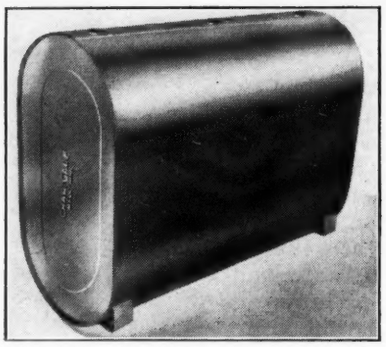
THE TRADITIONAL DRAWING for winners in the Sweepstakes conducted by McDonnell & Miller, Inc., Chicago 11, Ill., was held on Christmas Eve and prizes were awarded to five fortunate ticket holders. First prize went to Carl Sahler, Thatcher Furnace Co., Garwood, N. J.; second prize to F. Williams, Williams

*CHAR—GALE

"Lifetime" Aluminum

AS A FUELOIL TANK

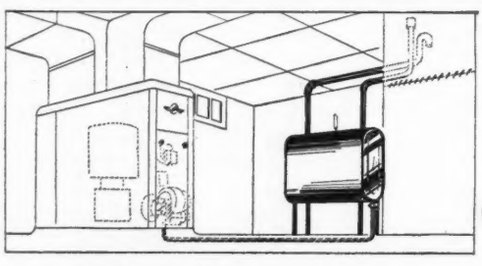
This "Lifetime" aluminum tank is entirely rustproof and is so light in weight that it can be easily lifted by one man or carried with ease by two. It has a capacity of 265 gallons and is equipped with standard openings and brackets for legs. It may be used either indoors or outdoors and does not require painting or other finishing.



Tank

MULTIPLE USES ON THE FARM

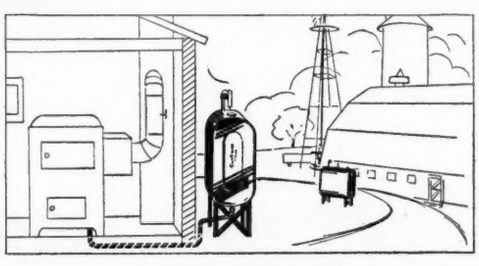
This tank may be used for fuel for furnaces or space heaters in house or outbuildings. It is also ideal for storage of any liquid indoors, or for outdoor storage of gasoline, kerosene, liquid insecticides, tractor oils, and other non-freezing liquids.



Available NOW!

Write for Prices.

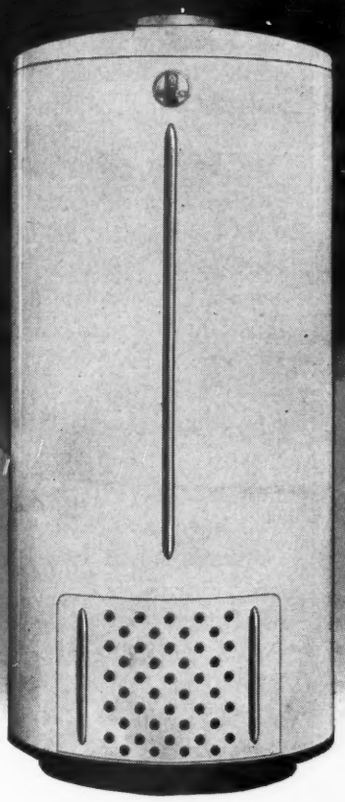
ORDER FROM YOUR NEAREST CHAR-GALE PLANT.



*CHAR—GALE MANUFACTURING CO.

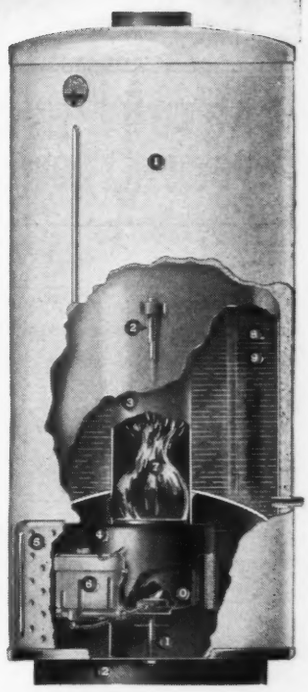
MINNEAPOLIS OMAHA

NEW *Streamlined Beauty*



GILLEN again shows the way in Water Heater design. Smartly streamlined, with casing of gleaming white baked enamel trimmed in stainless steel, the GILLEN has a beauty all its own. This outstanding beauty, combined with up-to-the-minute engineering, gives GILLEN the greatest customer-appeal of any Oil-Burning Water Heater on the market. So . . . for easier sales and greater profits, sell the GILLEN Automatic Oil-Burning Water Heater—the Water Heater that Sells Itself!

IMMEDIATE DELIVERY!
Write for literature and prices today



FEATURES THAT HELP YOU SELL!

1. Easy-to-clean baked white enamel casing, trimmed with stainless steel.
2. "Magic Pilot" Oil Control, with built in anti-flooding device, gives matchless economy.
3. Oil Control enclosed within casing, making it tamper-proof, accident-proof. Makes heater more compact and easier to keep clean.
4. Swirling-action flame concentrates heat at base of flue casing for greatest heating efficiency.
5. Thick jacket of Fiberglas insulation on top and sides saves heat and gives faster recovery.
6. Magnesium alloy anode rod with special current-limiting resistor prevents rust and corrosion, prolongs tank life.
7. New Low-draft Burner. Fire is not affected by variable drafts, but burns evenly and constantly at all stages.

J. L. GILLEN CO.
202 E. HIGH STREET DOWAGIAC, MICHIGAN

fueloil Oil heat

Bros. & Miller, Inc., East Chicago, Ind.; third to Douglas Clucas, George D. Clucas, Inc., Buffalo, N. Y.; fourth award to H. F. Seltzer, National Radiator Co., Washington, D. C., and fifth prize to C. C. Craft, Iron Fireman Mfg. Co., Cleveland, Ohio.

Apollo Distributing Co. Handling Coleman Heaters

APPOINTMENT of Apollo Distributing Co., Newark, N. J., to act as wholesale distributors for the line of oilfired heaters made by Coleman Co., Inc., Wichita 1, Kan., has been announced. Sid Thompson heads the firm's new heating division, with Lou Blair as his assistant. Mr. Thompson has merchandised heating equipment since 1920, and most recently, managed the heating division for Igoe Bros., Newark, N. J. He also has held positions with American Nokol Corp. and General Electric Co. Mr. Blair will be district manager in five counties of Apollo's territory.

The establishment of a heating division supplements the other lines of domestic appliance which the company handles.

Standard Heater Appoints Eastern Representatives

HEATING BOILER DIV., Standard Heater & Oil Equipment Co., Jersey City, N. J., has appointed representatives to service dealers and other outlets in two eastern areas. Charles F. Hurst, Scranton, Pa., who recently terminated his connection with the War Department to resume activity in the heating equipment field, will represent the division in the eight northeastern counties of Pennsylvania and the Binghampton area of New York.

In the thirteen eastern counties of Pennsylvania, the entire state of Delaware and the eight counties of southern New Jersey, Albert C. Masche, Philadelphia, has been named. He will be assisted by his associates, Ralph M. Sprowles and William D. Means.

Brundage Opens New Research Laboratory

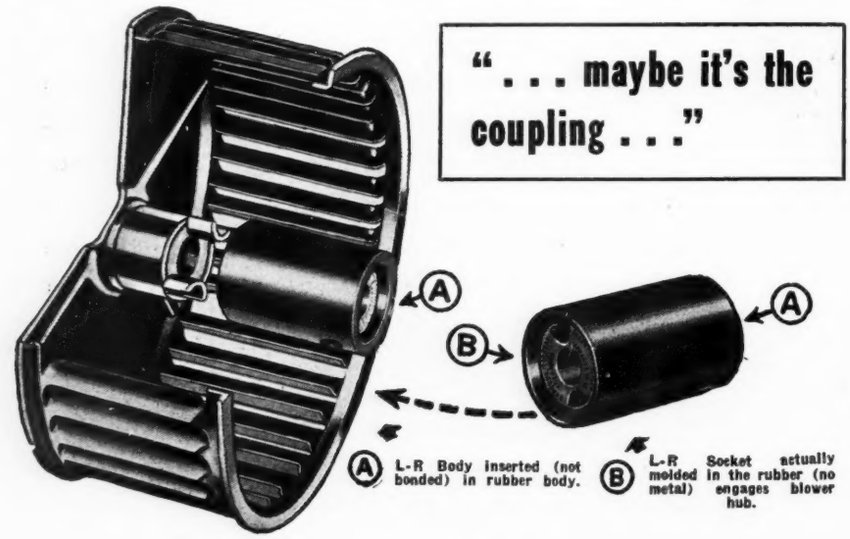
THE ENGINEERING STAFF of Brundage Co., Kalamazoo, Mich., blower manufacturers, moved into a new research laboratory the first of the year. Established in a nearby building, owned by the company, the laboratory will concentrate on development and improvement of products and testing equipment.

The laboratory was opened in December during the company's first national sales conference, attended by thirteen representatives and members of the Kalamazoo staff. Actual occupation of the laboratory, however, did not take place until later. In 1948 Brundage will engage exclusively in manufacturing. When organized in 1919, the company handled construction contracts, and has just completed the final one.

Jack & Heintz Produces Millionth Electric Motor

THE MILLIONTH electric motor produced by Jack & Heintz Precision Industries, Inc., Cleveland 1, Ohio, came off the company's Berea Road Plant assembly lines on January 9. There was no suspension of manufacturing operations to permit completion ceremonies and work proceeded without interruption.

The company entered the electric motor field in May 1946, producing only



"... maybe it's the coupling ..."

A L-R Body inserted (not bonded) in rubber body.

B L-R Socket actually molded in the rubber (no metal) engages blower hub.

ASSURE EVEN POWER FLOW...

LOVEJOY L-R Type CX Double-flex Flexible Couplings

With the Lovejoy L-R Type CX Double-flex flexible coupling, you know that drive and driven units are accurately aligned. You know that the coupling is right. Misalignment, whip, shock, surge, backlash, etc., are effectively controlled.

Type CX Double-flex is especially designed for oil heaters and air conditioning units.

- Can't fall off when blower and pump units are serviced.
- Easily installed in dark or close quarters.
- Quiet—no rattle.

SEND TODAY FOR BULLETIN 520 ON THIS COUPLING

OHI

LOVEJOY FLEXIBLE COUPLING CO.

5012 W. Lake Street • Chicago 44, Ill.

special application 1/3 hp. models. Shortly thereafter, the line was extended to include 1/6, 1/4, and 1/2 hp. motors. Jack & Heintz' production of fractional horsepower motors was reported to have reached 885,946 in 1947, against a total of 102,697 in 1946.

R & I Elects Two Members to Board

ELECTION of J. J. Bliss and C. K. Clark to the board of directors, Refractory & Insulation Corp., New York 5, N. Y., has been announced. Mr. Bliss, a graduate of Pratt Institute Engineering School, has been with the company since 1933 as a sales engineer, specializing in developing new markets. Mr. Clark, R & I's purchasing agent, is located at the Port Kennedy, Pa., plant and has been with the company since 1934.

C. A. Dunham Co. Announces Change In Ownership

H. S. MARSHALL, president, C. A. Dunham Co., Chicago, has announced that a group of Chicago businessmen, including members of Dunham Operating & Sales Organization, has purchased the interests in the company formerly owned by the estate of the late C. A. Dunham. Mr. Marshall declared that no change in personnel or policy will result, or is anticipated.

The company engineers and manufactures brass specialties, heat control equipment, condensation and vacuum pumps, convector radiation, unit heaters, traps and valves, and, during 1947, added baseboard convectors and power ventilating equipment.

68-and-60-or-Suffer Is Conservation Slogan

GIVING A NEW and additional emphasis to the slogan "68-and-60-or-suffer," E. F. McCabe, vice president in charge of sales of Tide Water Associated Oil Company's Eastern Division, has sent urgent appeals to heating oil users, particularly private home owners, to hang a reminder tag on their thermostats that daytime temperatures will be kept no higher than 68° and lowered to 60° at night.

Thousands of the tags, with attached string, are now being mailed out daily to individual oil users, jobbers and distributors who have forwarded pledges to cooperate in the fuel conservation program by reducing requirements by at least fifteen per cent.

Blankin Equipment Moves To New Philadelphia Office

BLANKIN EQUIPMENT CORP., Philadelphia 32, Pa., is occupying new quarters located at the northeast corner of 35th Street and Indiana Ave. Merrill F. Blankin, president, is a past president, American Society of Heating and Ventilating Engineers. His organization distributes products of Hoffman Specialty Co., McDonnell & Miller, Inc., Taco Heaters, Inc., Au-Temp-Co Corp., White-Rodgers Electric Co., New York Blower Co., and others.

Sid Harvey of Pa. Sets Up Motor Repair Department

EXPECTED TO BE in operation by February 1, Sid Harvey of Pa., Inc., Philadelphia, Pa., has announced plans to establish an on-the-spot motor repair de-

FITZGIBBONS
STEEL BOILERS
Sizes for all installations
"400" SERIES
"D" TYPE
"80" SERIES
Famed for their low - cost heat and domestic hot water...in any steam system, with any fuel, any firing method. A.S.M.E. built, Hartford inspected, S.B.I. rated. See your local Fitzgibbons man or write us.
SBI
Fitzgibbons Boiler Company, Inc. 101 PARK AVE. NEW YORK 17, N. Y.

EFFECTO-GRILLE
NOW AVAILABLE!
A Complete Line of AIR CONDITIONING and GRAVITY REGISTERS and GRILLES
No. 120A GRAVITY REGISTER with Removable Face for Gravity or Air-Conditioning Installations.
The Line That Has Everything
• EASE OF INSTALLATION • PERFORMANCE
• POPULAR PRICES • BEAUTY • PROMPT DELIVERY
TURNBULL MANUFACTURING AND DISTRIBUTING CO.
9937 Freeland Ave., Detroit 27, Mich.

partment to round out other services already offered in rebuilding and replacing oilburner parts and equipment. With the establishment of the new department, it is felt that waiting time on motor repairs can be reduced materially.

Theodore C. Lindtveit has been named to head the department. He has had nine years experience with Sid Harvey, Inc., Valley Stream, N. Y., which included managing both the motor repair and control repair departments. He also headed the Research and Engineering Departments.

Penn Electric Opens Rochester, N. Y. Office

A NEW SALES OFFICE, supervised by J. E. Corbett, has been opened at 2610 Monroe Ave., Rochester, N. Y., by Penn Electric Switch Co., Goshen, Ind. The new office is a division of the company's New York branch, managed by N. E. Jennison, and was opened to provide more efficient service to customers in upper New York state.

Mr. Corbett formerly covered the territory from the New York office. He has been with the company approximately ten years and has had wide and varied experience in the applications of automatic controls for heating and other applications.

Shell Oil Sponsors Evening News Broadcast

BEGINNING February 1. Shell Oil Co. is sponsorng the 11 P.M. newscast over WNBC, New York, featuring Kenneth Banghart. The quarter hour program will run seven nights a week, with institutional type commercials announced by Jack Costello. Since the early days of the war the 11 P.M. spot has been on a non-commercial status as an NBC public service feature. The new program replaces the thrice weekly Shell-sponsored Bankhart newscast at 6 P.M.

Incorporate Hammel-Dahl

IN ORDER to handle properly an increased volume of sales in the automatic control field, Hammel-Dahl Co., Providence, R. I., was incorporated, effective January 1. There will be no change in the management of the company. The following men are officers and members of the board of directors: E. T. Dahl, president; B. G. Woolley, treasurer; Bruce A. Irwin, vice president and secretary and Thomas Ponton, vice president.

Mr. Dahl is a recognized designer and inventor of control valves and originated the Venturiflo-angle valve for use in refinery cracking plants.

◈

William H. Garbade, assistant treasurer, Shell Oil Co., Inc., has been elected president, Deep Rock Oil Corp., Tulsa, Okla., succeeding *C. K. Baxter,* president pro tem. Mr. Baxter will continue as chairman of the board and Mr. Garbade will succeed Jason L. Honigman as director of the corporation.

Paul R. Jett has been appointed sales representative, Air Controls, Inc., Cleveland 14, Ohio, and will supervise distribution of Rex fans and blowers in Missouri and southern Illinois. Mr. Jett established his own company the first of the year, at St. Louis 8, Mo., to represent manufacturers in this area and has been designated agent, also, for Field barometric draft controls.

MONARCH BURNER ACCESSORIES

AIR CONES AND STABILIZERS

F-57 H-215

Atomizing Nozzles

Preferred Because:

1. Each nozzle is individually tested and checked for capacity against the flow of a calibrated master sample. Capacity tolerances are as low as plus or minus 2½%.

2. Standard nozzles will fire most gun type high pressure burners satisfactorily, but special series are also available for burners requiring specified spray characteristics.

New air cone-stabilizer combinations are now available for 3⅞" and 4½" I.D. air tubes.

Monarch combinations have been used as original equipment by burner manufacturers for many years and dealers have used thousands of them to make old burners more efficient. Eliminate guesswork—Use this tried and tested equipment and be sure of *results.*

Equipment for 3½", 3⅞", 4", 4¼", 4¾", 6" and 8" I.D. air tubes in stock.

Replacement Valves

Monarch piston type pressure regulating and cut-off valves are available in several models to suit most replacement needs. G-49 valves can be mounted in any position and piston will not jam from dirt. Contain no bellows or diaphragm to break or corrode.

Write for Catalog D

MONARCH MFG. WORKS, INC.
2503 E. ONTARIO ST.
PHILADELPHIA 34 PENNA.

European Distributor: A. Coutau, Rue de la Scie No. 16, Geneva, Switzerland

KLEEN-HEET MODEL 77

THE OIL BURNER WITH ALL THE FEATURES

ONE MODEL HANDLES FROM 0.6 TO 6.0 GPH ! ! !

Yes—Kleen-Heet is actually America's most "flexible" Oil Burner. It's one of the few oil burners listed by the Underwriters' Laboratories that has this wide range. Just think! *One Model* can handle *any* job from bungalow to mansion. Little stock and storage problem—no original large order necessary because one model can handle most any job in the domestic oil burner field. Besides this—they're easy to install—and service is at a minimum. Just ask any KLEEN-HEET Service man—he'll tell you.

It'll pay you to write today for details to

Kleen-Heet INCORPORATED

1829 CARROL AVENUE **CHICAGO 12 • ILLINOIS**

"Since 1919 . . . America's Most Luxurious Oil Heat"

fueloil & oil heat

Reader's Problems

Q. In my work of repairing and adjusting oil burners, I have come across many difficult problems and so far have been able to overcome all of the difficulties. Your articles have helped me no end. I have been able to improve the efficiency of many units by use of your suggestions.

I wish to express my appreciation for the fine articles you have made available to repairmen like myself. They are so clear and concise and the suggestions really work.

There has always been one complaint, however, which has given me trouble and I have never been able to repair it properly. That is the pulsating or vibrating of a furnace. The burner seems to burn in small explosions or popping which shake the furnace and in turn the house and this is very aggravating to the customer.

In the past we have always added a little secondary air which I always felt was wrong. However, lately I have four furnaces which do not respond satisfactorily to this.

I have tried increasing and decreasing the oil pressure and using different sizes and angles of nozzles and varying the draft, but with no success.

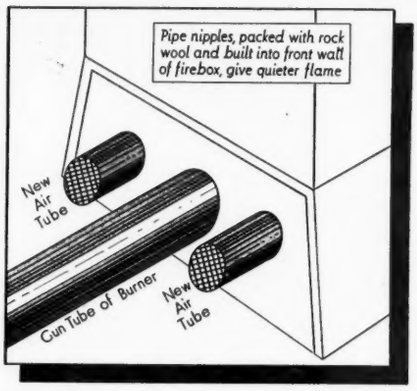
I would appreciate any suggestions you might have. Thanking you for your trouble and advice, I remain, Yours truly.

R.J.P., *Lorain, Ohio.*

A. We know what you mean about its being difficult to rid certain installations of flame pulsation.

Make certain of this: Try different nozzles, plenty of them! Recently 13 different nozzles were tried on one job which gave the trouble you describe. The reward came in a silent flame.

This may work out to be important.


Pipe nipples, packed with rock wool and built into front wall of firebox, give quieter flame
New Air Tube
Gun Tube of Burner
New Air Tube

Try hollow-spray nozzles as well as full-spray nozzles.

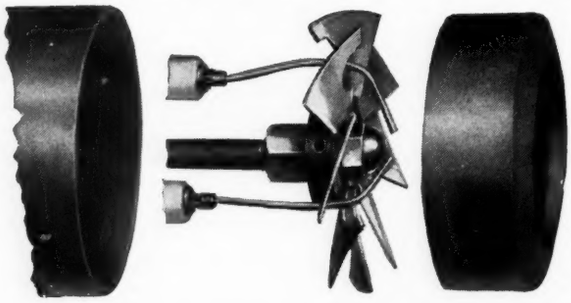
Every service man must face these facts of life:

a. Certain furnaces and boilers have a greater tendency to give flame noise and pulsation than others. With no air leaks and therefore in the best condition for high CO_2 readings, the furnace's flame noise tendencies usually are greatest. Very old, perhaps poorly assembled boilers and furnaces may give very quiet combustion simply because they have many air leaks.

b. Certain burners tend to give much more flame sound than others. A great

THE ANSWER TO THE FUEL OIL SHORTAGE

GUARANTEED TO SAVE FROM 15 TO 25% ON FUEL OIL COST



THE SIMPLE

SANBORN AIR SWIRLER

SMOOTH PERFORMANCE scientifically and thoroughly mixes air with atomized oil . . . produces perfect carburetion and complete combustion resulting in a hotter, more efficient fire. Excess air, partly burned combustion gases and high stack temperatures are controlled and reduced to a minimum. Eliminates: starting puffs, flame pulsation, nozzle baking, excess air, firebox soot.

- Saves from 15 to 25% on fuel oil cost by raising CO_2 up to 14½%
- Burns Catalytic Fuel oils cleanly and completely
- Raises fire-box temperatures 300 to 500 degrees
- Reduces high stack temperatures
- Does not reduce, but increases burner capacity
- Installed in any Gun-type burner
- No moving parts or adjustments
- Easy to install on the job. No special tools required

Territories available for established reputable dealers

SANBORN SYSTEMS, INC. 4975 N. SANTA MONICA BLVD.
MILWAUKEE 11, WISCONSIN

SPARK FEATURES HELP YOU SELL MORE OF THESE ECONOMICAL HEATERS

1. SPARK gives both radiant and circulating heat.
2. Efficient, low-cost operation. Approved by Underwriters' Laboratories, Inc. to burn No. 3 stove oil.
3. Compact design; low vent for fireplace installation.
4. VISIBLE FAN-SHAPED FLAME.
5. Sensible price.

Write for complete information on SPARK oil burning heaters. Many new dealerships available.

SPARK OIL BURNING HEATERS

A product of
HAMMER-BRAY CO., LTD.

Hammer-Bray Co., Ltd., Dept. F-1
2619 E. 12th St., Oakland 1, Calif.

Gentlemen: Please send me complete information on SPARK oil burning heaters and your SPARK dealer plan.

Name _____

Firm _____

Address _____

City _____ *State* _____

fueloil & oil heat

deal depends on the blower and the design of its housing, and on the air-handling parts in and at the end of the gun tube. If you are determined to arrive at flames which are practically silent, you may have to fit some of your burners with different air-handling parts obtained from companies which specialize in making these.

c. Certain combustion chamber materials and designs tend to make for quieter combustion than others. If the combustion chamber is not the type that gives maximum flame quietness, you may never be satisfied with the installation until you replace the combustion chamber with one designed especially to give nearly-silent burning.

"Quieting tubes" fitted into the front wall of the firebox, on each side of the gun tube of the oilburner, may be the only speedy way to obtain the quietness you want on certain installations. Use 1¼" to 2" pipe, depending on the size of the installation, for making such quieting tubes or air tubes. The outer end of each tube should be stuffed with loosely-packed rock wool insulation. Rock wool is not placed in the fire-end of the tube where high heat from the flame would damage it. Use heavy wires strung through drilled holes in the pipe, together with suitable screening, to keep the rock wool in place. The air tubes packed with rock wool give a breathing effect which often ends the trouble. Of course, this is in effect giving the flame a small amount auxiliary air by natural draft, and to obtain high CO_2 readings and high efficiencies with this arrangement, the smokepipe draft must be controlled closely by a good draft regulator.

You may not like this suggested air tube arrangement because of its unavoidable tendency to lower the combustion efficiency of certain installations. But it may be best that you use it at times, even then, especially where you must provide quieter burning and you find it impossible to change the design of the firebox or the burner, or whatever is the basic cause of the noise which causes the owner to complain to you.

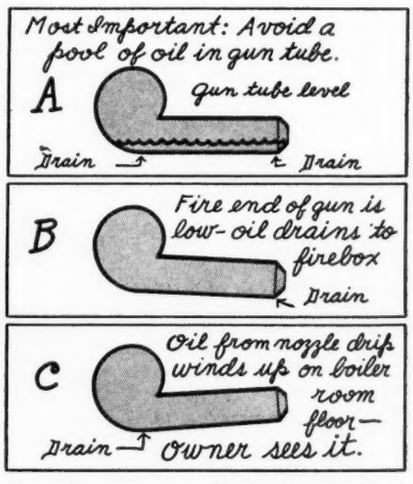
* * *

Q. With reference to your interesting "Readers Problems," we should be very glad to secure accurate information concerning the inclination of the blast tube of the usual gun-type pressure oilburners, deciding if the oil which sometimes drops from the nozzle has to fall into the boiler firebox or into the burner.

M.I.C., S.A., *Nice, France.*

A. As the tip of the atomizing nozzle usually is located within the end of the gun tube, a leaky shut-off valve will cause oil to fall inside the gun tube when the burner is idle.

This is the important point. A leaky shut-off valve should not cause a pool



French engineer asks about gun slant

Here's New DEPENDABILITY for Oil Ranges

UNIQUE NEW COMBINED OVEN and BURNER CONTROL

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of oil to form in the gun tube while the burner is idle. Ignition of such a pool of oil may damage the burner parts inside the gun tube. If the oil is vaporized and burned while the burner runs, an oversize fire will be the result. Soot and carbon formed by incomplete combustion of oil accumulated in the gun tube may cause ignition failure.

The burner should be designed and installed so that any oil which drips from the nozzle with the burner idle will drain properly to one place or another.

Certain engineers want oil to drain from a gun tube to the firebox. Many gun burners have some kind of a drain opening at the firebox end of the gun tube. If the burner is installed with the gun tube level or with the blower end of the tube higher than the fire end, any oil which leaks from the nozzle to the gun tube will drain to the firebox or soak into the refractory material of which the firebox is built, which is around the end of the gun tube. One school of thought is to slope the gun tube down towards the firebox, if you slope it at all instead of having it level, so that oil dripping from the nozzle because the shut-off valve leaks will drain speedily to the firebox.

There's another school of thought, however, based on certain engineers' belief that it's best to provide positive draining, and that signs of a leaky shut-off valve should be seen by a burner owner or service man who looks at the burner. The principle is to have the blower end of the gun tube lower than the other end, so that oil leaking into the tube from the nozzle with the burner idle will form a spot on the floor for the burner owner or service men to see. Using this idea, of course the blower end of the gun tube must not be oil-tight, otherwise oil would not drain to the basement floor but would form a pool in the gun tube. Those adhering to this line of thought point out that when a burner is installed the fire end of the gun tube may be coated with refractory cement and a drain hole at the fire end of the tube may be plugged tight inadvertently. Also, they say, a concealed drain hole near the fire may become plugged by dirt and debris, or by gummy oil deposits which result from a slight leak of the shut-off valve, as an installation grows older.

All-in-all, if you give thought to installing your burners in a way that gives little likelihood of an oil pool's forming in the gun tube, you have no need for worry.

* * *

Q. How much fueloil does using an inside chimney save in a typical insulated home instead of using an outside chimney? I'm wondering if in planning a new house it's worthwhile to build two chimneys, an outside chimney for the open fireplace and for good outside appearance of the house, and an inside chimney to hold down oil bills.

For a three-bath house, will the use of circulating lines for the hot water faucets, to make hot water come instantly from every faucet, make a considerable difference in the oil used for water heating?

B.L.C., *Milwaukee.*

A. The amount of oil saved by using an inside chimney instead of an outside chimney depends on many factors, including the stack temperature, construction of the chimneys, CO_2, and chimney

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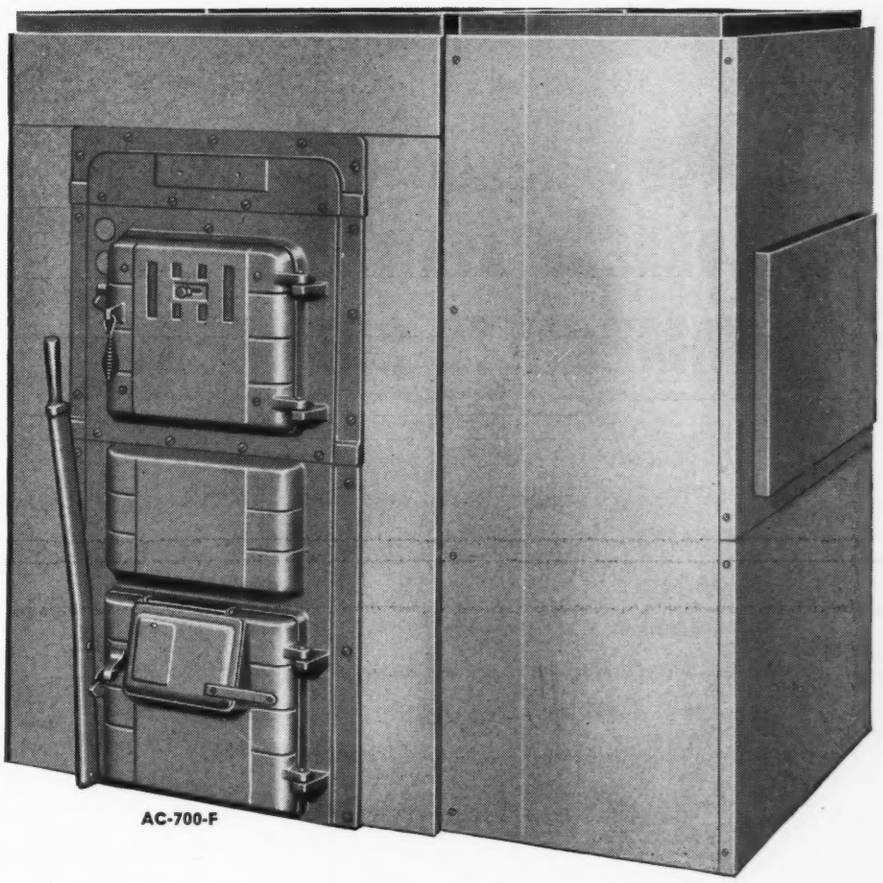
Abundant air circulation is provided by the large, silent operating blower. Large filter area assures a long period of air cleaning without frequent replacement of filters. An automatic humidifier supplies the necessary moisture.



AC-700-F

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Medina, Ohio

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fuel oil & oil heat

area which will be effective in heating the house. With a fairly high stack temperature, say above 750°, as much as 5% to 7% of the oil used for heating probably can be saved by using an inside chimney in a two-story house. But with an extremely efficient oil-fired boiler or furnace, the savings will be less than half this. In planning a new house, you would do well to make certain of maximum practical efficiency for the heating system, and to use an outside chimney for the furnace or boiler if using an inside chimney would mean building an entirely separate chimney, in addition to the fireplace chimney. Considerable extra money would be spent on the extra inside chimney. Besides, it would take up valuable space in the house.

Use circulating hot water lines for a house of the type you describe. Very little extra oil will be used. During the heating season, much of the heat given off by such lines serves to heat the house.

* * *

Q. I read recently in your "Reader's Problems" that a service man obtains good results using 50 lbs. pressure of the pump in a gun burner. If that works all right, why is it not used generally in place of 100 lbs. pressure?

S.L., *Brooklyn.*

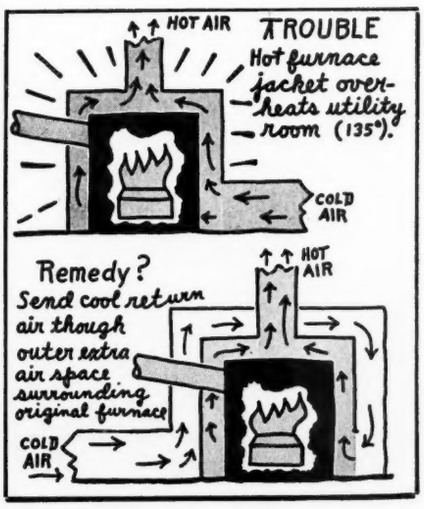
A. The reader's letter you ask about appeared on p. 136 of the September, 1947 issue of FUELOIL & OIL HEAT, and reported on experiments the service man was making.

The manufacturers of pressure burners have different opinions regarding the proper pressure for nozzles. Some indicate that in general about 100 lbs. pressure should be used. Others say that as low as about 70 lbs. and as high as 150 lbs. may be used where expertly-made check-ups show that unusually low or high pressure gives the best results.

* * *

Q. I am wondering what to do about a new house heated by forced warm-air which is oil-fired by a pot burner, and in which the utility room temperature runs as high as 135° because of the small size and low heat loss of the utility room compared to the large size and high temperature of the furnace jacket. The little utility room, in fact, is near the center of the house and has no heat loss at all in the ordinary sense because it has no outside walls. Matters are worse because the furnace jacket is uninsulated. I cancelled out as worthless the idea of circulating air from the utility room to the rooms of the house, since there are fire hazard and oil odors to be considered.

Your opinion on enclosing the entire furnace in another jacket (over the one now on it) and circulating cool air from the returns through the space between



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MADISON 3, WISCONSIN

the two jackets (see my sketches) would be appreciated.

E.T.E., *Indianapolis.*

A. Properly carried out, your idea would work. To build the extra, outer jacket would be expensive to-be-sure, and you would have to design carefully for proper air-flow between the two jackets, so that all parts of the original furnace jacket would be bathed by the cool air returning to the furnace. You would have to provide for proper access doors in the outer jacket to service the burner and observe the flame.

Before you go to the great expense of enclosing this furnace in the outer jacket, consider insulating its present jacket with some kind of highly effective insulation which can be applied easily to the furnace. That may be more practical.

* * *

Q. Can you give me information I can use to remedy the trouble I'm having on a high pressure forced air heating unit?

It's a winter air conditioner with the burner mounted directly on the unit, not supported by the floor. It is operating at 8% CO_2 with .03" draft—nozzle ¾ gph at 80 lbs. pressure. The 8% CO_2 is the best I can get but as I understand it this is OK with a nozzle under 1.0 gph.

The trouble I have is that when the burner is operating it causes a great vibration to the floor above the unit. In fact the vibration can be felt in the upper flat. While the fan only is operating there is no vibration.

Here is what I think causes this:

1st. The burner being mounted directly on the unit causes some of this vibration.

2nd. The hot air supply pipes are fastened to the cellar ceiling by metal straps and the return air branch is nailed directly to the ceiling. This causes a great part of the vibration.

3rd. There is a rumbling sound which I can't quite explain but it is quite distinct when you stand near the pipe leading into the chimney.

Can I remedy the second cause by using a canvas connection on the hot and return air branches? I would cut out about one inch of the ducts and connect with canvas. If so, what type and weight of canvas is used?

The third cause I cannot explain, so know nothing which might remedy this. Your help will be greatly appreciated.

B.W.O., *Sheboygan, Wis.*

A. From what you say, we believe that 99% of the trouble is caused by flame noise and flame pulsation. Check on this yourself by running the burner motor while the burner gives no flame. To do this, remove the nozzle line connector from the fuel unit and plug the fuel unit opening which usually provides oil for the nozzle. Keep the burner motor running while you study the sounds and vibration in the basement and upstairs, by putting a jumper from the "live" or #1 terminal of the control panel to the "live to motor" or #3 terminal of the panel.

We believe that without the flame burning but with the burner motor running, there will be none of the troublesome vibration you describe. We do not believe that transmission of vibration by the supply and return ducts, or the mounting of the burner directly on the furnace, are responsible for the excessive vibration. After all, the ducts do

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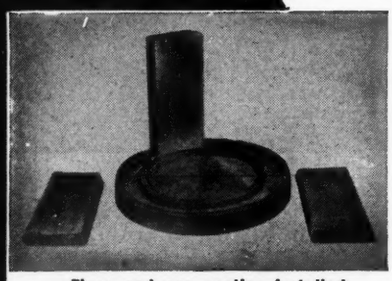
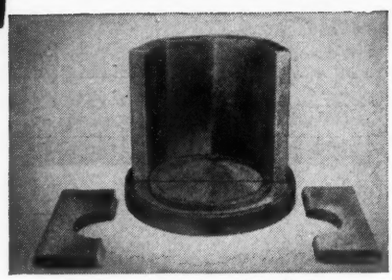
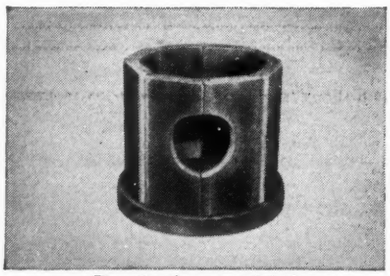


Floor and one section installed



Half of sections installed



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The reversible base with grooves on both sides, makes it easy to build chambers of different sizes.

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Chambers are 14" high inside, 15¼" high outside. Can be used for jobs from 1.00 to 1.65 gal. oil per hour. For larger capacities, extension pieces can be supplied.

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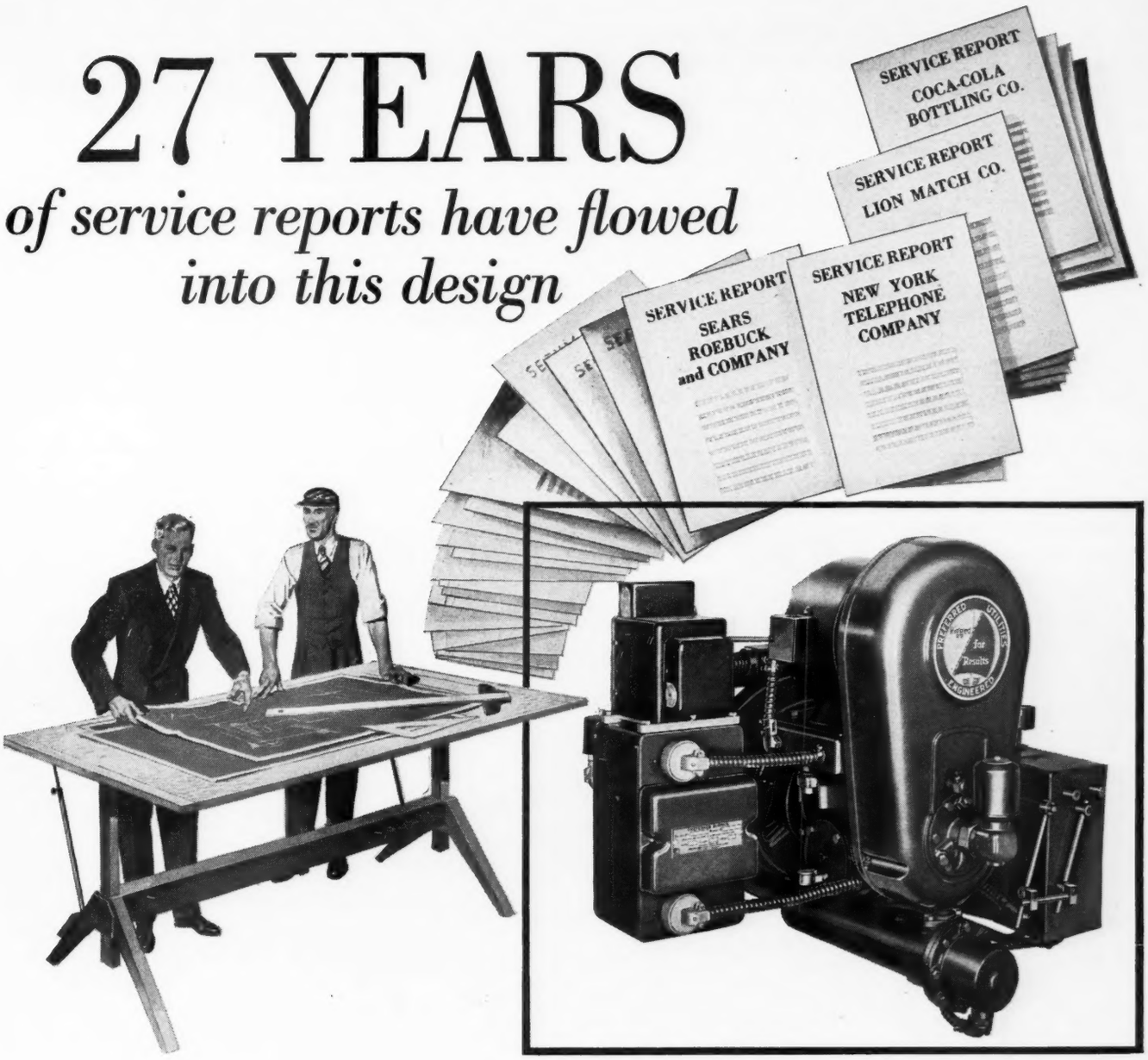

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Before becoming a manufacturer, Preferred was active as dealer, installer, and then distributor. This invaluable experience has put Preferred in an ideal position to design a burner with all the sales features which help ring the cash register, and — what is equally important — simplify installation and reduce maintenance.

Look at these outstanding features . . . you will agree that this burner was designed the way *you* would have designed it. For complete details, write for Bulletin 175.

Outstanding features of this new burner include:

DUAL-PUMP RESERVOIR — maintains a constant discharge volume.

PATENTED "VOLUVALVE" FUEL REGULATION — meters predetermined quantity of oil regardless of variations in temperature, pressure or viscosity.

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PR-165

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not, from what you say, transmit upstairs excessive vibration from the circulating blower. You indicate the installation is quiet with the circulating blower running and the burner idle. We believe you will find the same pleasing quietness if you run the burner motor without the burner's giving a flame.

If such testing proves that flame noise and flame pulsation are the real troubles, concentrating on the combustion aspects should reduce the vibration. Such things as these should reduce or eliminate the flame vibration:

a. Together with trying different settings of the smokepipe draft regulator, try different nozzles. At the same time, try different atomizing pressure from about 70 to 120 lbs.

b. Check thoroughly on the firebox, to find out if changing it will produce a silent flame. On certain installations, flame vibration and sound can be eliminated by reducing the nozzle height or the width or length of the firebox. On others, to arrive at silent and vibrationless combustion it is necessary to tear out the original firebox and build one of special design and material.

c. Try installing auxiliary air tubes, made of 1¼" pipe nipples inserted in the front wall of the firebox, if the particular installation permits you to try this easily. Rock wool insulation can be used in the air tubes to prevent outflow of oil gases and products of combustion when the burner starts.

d. Check the air-handling parts in the burner gun tube and at the end of the gun tube to make certain that these can not be adjusted or altered to quiet the flame. Different air-handling parts can be used in the gun tubes of certain burners to reduce or eliminate flame vibration.

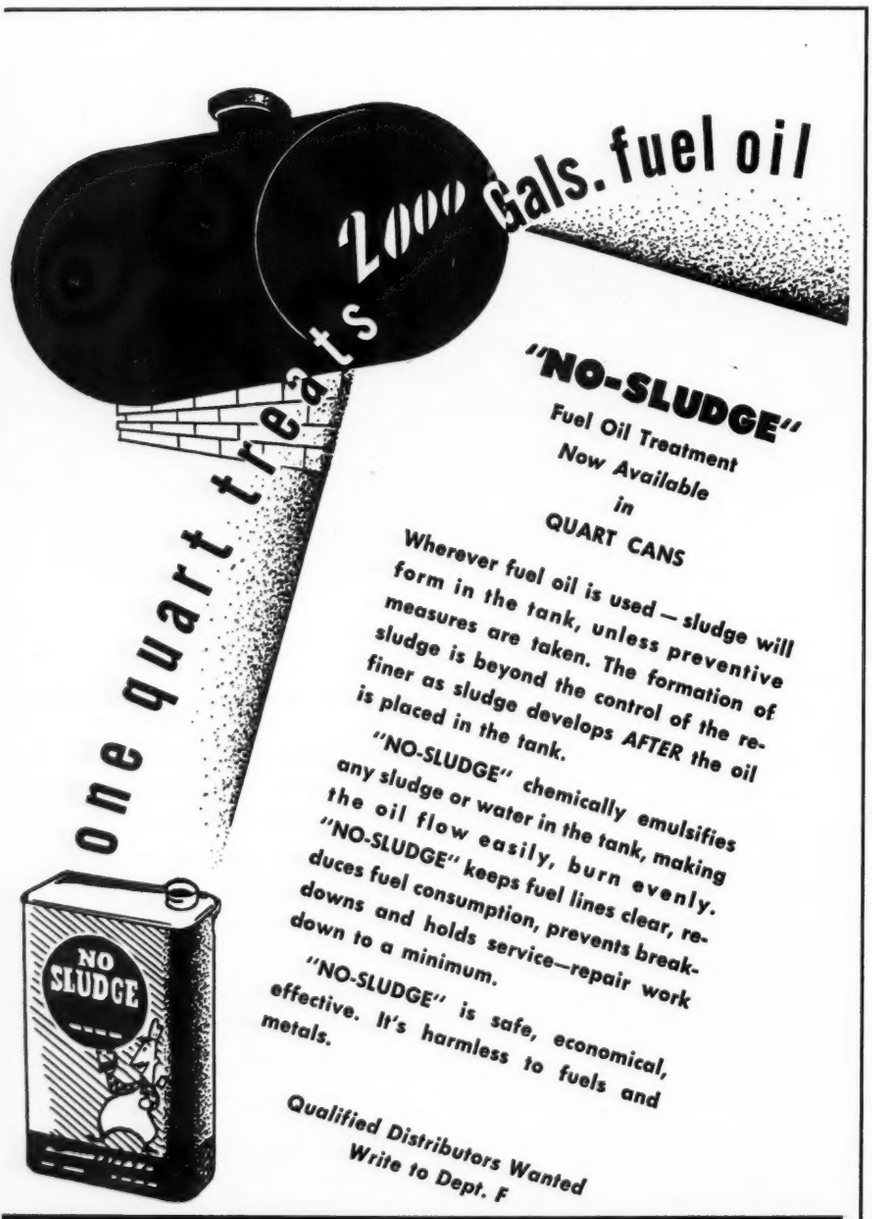
e. If you are using intermittent ignition on the installation, try continuous ignition (to do this, simply wire the ignition transformer in parallel with the burner motor) to find out if this gives steadier burning.

Flame vibration is air-borne and its effect upstairs would not be decreased greatly by using canvas connectors in the supply and return ducts. Ordinary heavy canvas serves for such connectors.

◈

A. R. Webber Co., Inc., New Haven, Conn. Catalogue No. 9, semi-annual illustrated booklet of parts, supplies and equipment for the oilburner trade. Includes trade prices for each item, with brief descriptions, technical and capacity data. An alphabetical index lists page numbers for more than one hundred and twenty-five different items, for many of which several types are shown. The back page of the 24-page booklet contains specific information on shipping instructions, how to order and general data for the purchaser.

Eddington Metal Specialty Co., Eddington, Pa. Bulletin No. 2051 on Edco single adjustment duplex valves, with sleeve or piston-operated bellows. The valves, designed to regulate fuel pressure at the nozzle and cut-off oil flow to the nozzle during burner "off" periods, are pictured, with numbered markers pointing out parts of four different models. Dimensions and standard pipe connections are furnished in another series of diagrams and tables. Other special design pressure regulating and cut-off valves are described briefly.



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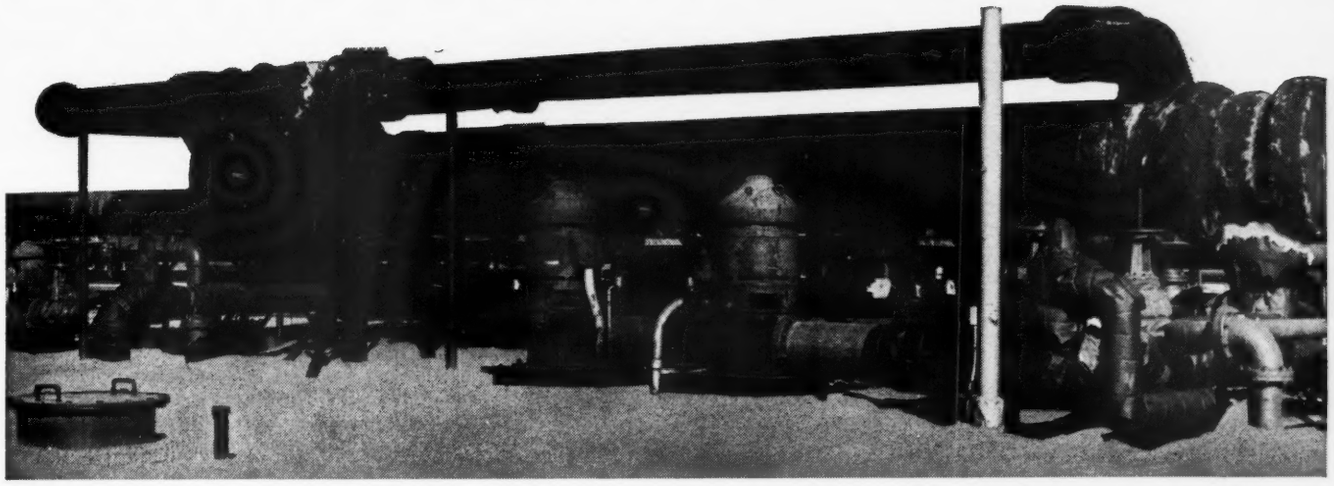

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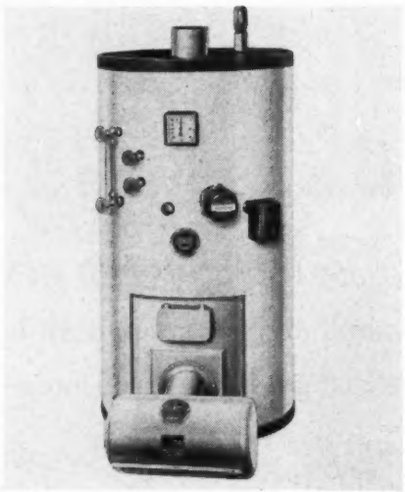
New Products

Conco Boiler Units In Square or Round Models

TWO OILFIRED steam or hot water boiler-burner units, announced by Conco Engineering Works, Mendota, Ill., are



available in square or round jacketed series. Among features incorporated is a built-in tankless heater and a patented heat transfer surface consisting of six horizontal flues, said to result in low stack temperatures, reducing soot and improving efficiency.

These units, like others made by Conco, are fabricated of Yoloy, special corrosion resistant alloy nickle steel, and are fired by Conco Magic Spray gun type oilburner.

Dole Starts Production Of New Water Mixer

A WATER-MIXER device, designed especially for tankless heaters and domestic storage tanks, now is in production by The Dole Valve Co., Chicago. Temperature adjustment controls domestic water to any fixed setting between 120° and 170° F., providing tempered domestic hot water. Water Mixers are offered in ½", ¾" and 1" sizes.

Use of the Mixer decreases danger from scalding and increases usable hot water of any tankless heater by reducing draw through the heater, providing more time for heat absorption, and blends city cold water with high temperature water discharged. Installation is said to be accomplished easily and quickly at low cost.

Park Burners Offered With Combustion Head

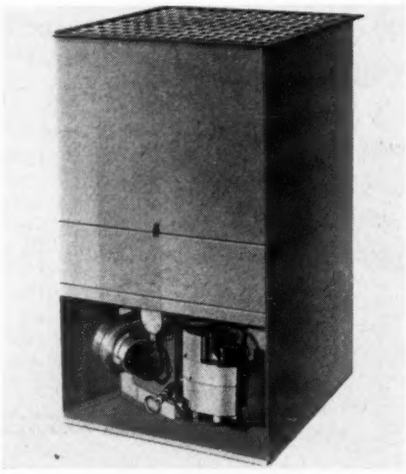
MODEL DPS, with capacity from ¾ to 2 gph, is being manufactured by Park Mfg. Co., Atlantic City, N. J., equipped with the combustion head under license by Shell Development Co. The burner is furnished with a one piece 3/16 cast aluminum housing, standard pump unit and motor, Guardian coupling with spline that fits over fan hub.

The combustion head provides for introduction of secondary air, adjustable to size of nozzle used and a primary and secondary air cone. Air adjustments can be made from the rear of the burners.

Park also has prepared a calculator, which provides information on nozzle sizes, width, length and height of combustion chambers, hot water, steam and warm air capacities for Model DPS and DP burners.

Domestic Co. Floor Furnace Is Complete Package Unit

AN OILFIRED floor furnace, developed by Domestic Co., Seattle 1, Wash., and



which is available for either thermostat or manual operation, delivers 50,000 Btu/hr at the register. It features all controls permanently located and wired at the factory before shipment. Also, with all controls mounted to the burner, when service is necessary, the burner can be detached from furnace by loosening three screws and the whole assembly removed. The register is finished in statuary bronze, a four-stage electroplating process, a finish selected as most durable after exhaustive tests by the manufacturer.

Casing dimensions are 24" square, making it necessary to cut only one floor member to accomplish installation. Model A is the conventional unit, while model B has provision for cold air return ducts. The vaporizing burner, which fires the units, is equipped with a reamer rod assembly to keep fuel inlet clear, an automatic fan switch, thermal limit control and constant level valve.

Arcadia Breese Burner For Use In Cook Stoves

DESIGNED specifically to convert wood or coal-burning cook stoves into oilburning ranges, Burner Devices of Arcadia,

Cal., has announced a horizontal, vaporizing oilburner. A unit of the Arcadia Breese line, the burner is small, light-weight, with a rating of 2/3 gph. It fastens to the outside of the stove, with no part inside except the flame, so that, if desired, oil or solid fuel can be used alternately. Draft-booster, electrically-driven blower unit, is contained in a two-piece die-cast housing, sealed in oil, and assembled to permit quick disassembly for servicing.

Both blower and fuel feed are simultaneously regulated by the Breese Rheotrol, another burner feature, which affords finger-tip control of the entire burner operation. The Rheotrol mixes vaporized oil and air in correct proportion. A low-burning pilot affords quick

FYRITE
SERVICE KIT

Contains CO_2 Indicator, Stack Thermometer (950° F.), Pocket Draft Gauge. These three instruments show quickly and accurately whether combustion is good or bad; whether draft is too low or too high; and whether stack temperature is running too high for maximum practical efficiency. Packed in each kit is the Fire Efficiency Finder. By setting CO_2 and stac': temperature readings on this unique slide rule, heating efficiency and stack loss can be read off instantly, without any calculations or references to complicated charts.

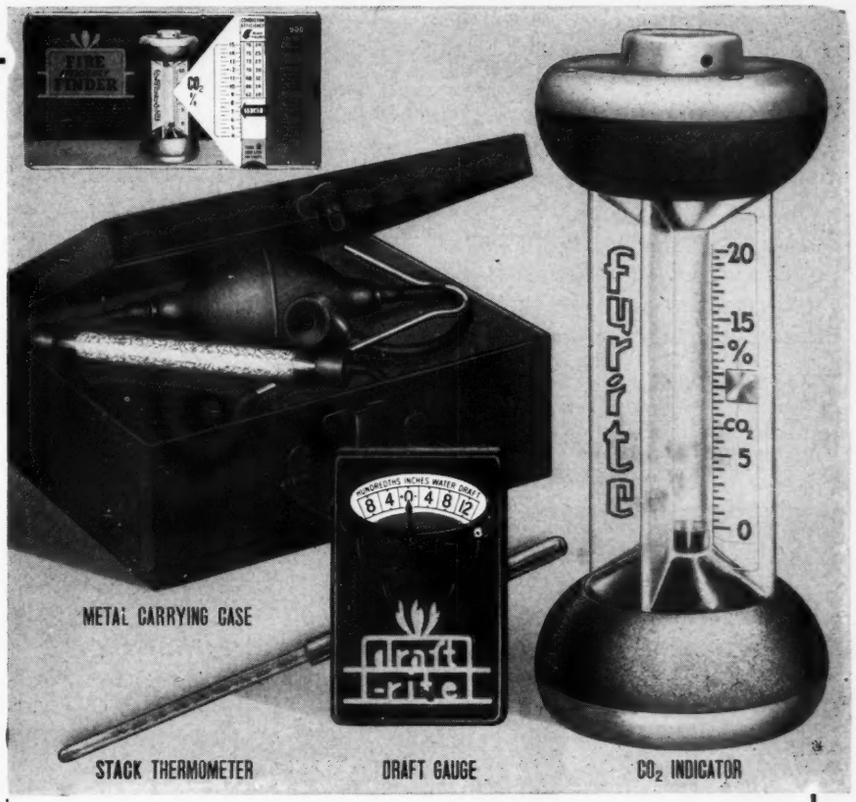
FYRITE CO_2 Indicator

Nothing tricky or complicated about a CO_2 test with the FYRITE. It requires no skill or special training. FYRITE, as received, is ready for use. It comes complete with sampling tube, filter, aspirator bulb and rubber tubing.

DRAFTRITE Draft Gauge

Ready for use the moment it is taken from its case. No setting-up required; no tedious leveling or refilling of liquid. It can be read accurately to 1/100 inch of water. Has free movement at zero to indicate "puff-backs."

For further information see your jobber or write to us for free Bulletin 730.



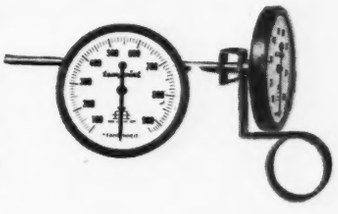
Reliable and Handy
COMBUSTION TEST KIT
at a Low Price!

Indispensable for servicing and adjusting a heating system expertly, these instruments are used effectively by thousands of heating contractors as real business builders in selling replacements, remodelling, and other profitable service jobs. They are ideal for making a simple and impressive demonstration of repairs and adjustments required to bring a heating plant up to maximum practical efficiency. Tests made with them before and after the service will show the improvements accomplished, which increases customers' confidence, reduces customer turnover, and leads to new prospects.

Aside from building business and improving service, the instruments contained in the Service Kit are needed to comply with the combustion-testing requirements of the various industry-sponsored installation standards and federal and state building codes.

—o—

The 950° F. Dial Thermometer shown at the right can be supplied in place of the mercury thermometer shown above, at slight extra charge. The kit case is equipped with brackets for both styles of thermometers.



Notable advantages of the Dial Thermometer are easy readability even in "difficult-to-get-at" locations, handling convenience brought about by the unique slip-on handle, and elimination of breakage hazards because of its all-metal construction.

BACHARACH INDUSTRIAL INSTRUMENT COMPANY
7000 BENNETT STREET · PITTSBURGH 8, PA.

starting at any time. The burner may be used also in heating stoves.

Lehigh Valley Boiler Features Radiant Transfer

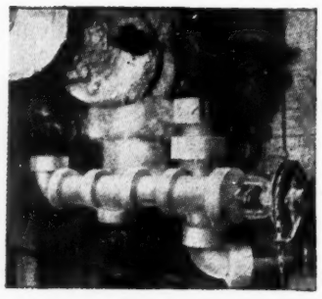
RADIANT GLOW oil boilers, developed by Lehigh Valley Service Co., Allentown, Pa., are designed to operate on the radiant transfer theory, whereby heat is absorbed from the direct rays of the fire. Extended surface is installed in the form of a series of V's, or radiant transfer plates, which extend from top to the bottom of the unit. The wide part of the V is toward the rear of the combustion area, extending forward toward the combustion chamber. Transfer surfaces of all parts of the boiler are water-backed. The smoke outlet is at the base of the boiler in the rear and each V tube has an opening in the bottom for discharge of unburned gases. An additional feature provides for a heat exchanger built around the smoke hood. On hot water jobs, the circulator delivers cooled water from the return of the heating system through the heat exchanger so that all possible heat is extracted from exhaust gases before the water is delivered to the base of the boiler.

The all steel, welded boiler is made in four sizes, ranging from 475 to 1570 sq. ft. hot water, 300 to 960 sq. ft. steam. The units, which pass through an average door, have a built-in expansion tank and are fired with high pressure gun burners. Entire unit, including burner and all controls, is enclosed within an extended jacket, and may be furnished with or without instantaneous coil water heater.

In addition to above advantages, R & I Stic-tite Insulating Cement is easier to apply. Simply mix it with clean, cool water and apply it with your hands, then smooth over with a trowel. No reinforcement is needed up to 1½" thick.

It will save your customers about 90% of the heat lost from uninsulated heating boilers, hot-water tanks, valves and fittings.

Your supply house has it. Write us for Bulletin I-75.



Refractory & Insulation Corp.
116 Wall St.,
New York 5, N. Y.
Chicago 4, Ill.
Newark 2, N. J.
Philadelphia 3, Pa.

R&I Stic-tite Insulating Cement

Gamlenol Fueloil Treatment

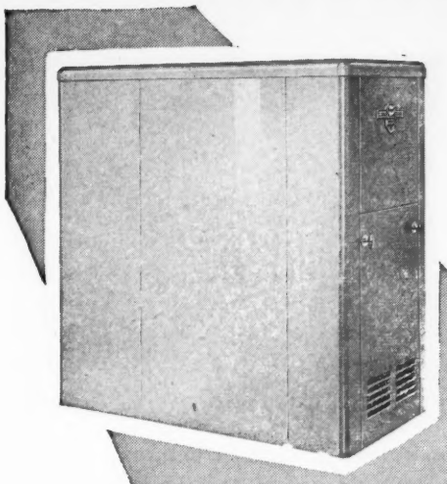
A FUELOIL ADDITIVE, developed by Gamlen Chemical Co., Pittsburgh 12, Pa., has been designed to dissolve and remove sludge present in fueloil storage tanks, suction lines, preheaters and prevent any further formations. Gamlenol fueloil treatment is added directly to the storage tank and chemically treats the oil so that it will not form emulsions or sludge with water. Even a small amount will eliminate sludge formations when added to a tank, tests by the company have shown and, by increasing the amount of treatment, tanks and lines can be cleaned effectively, and burner tips, register and impeller plates maintained in a clean condition.

Gamlen has been a pioneer in developing soot eradicators and fueloil treatments for the past twenty-five years, previously concentrating in the marine, railroad, aviation and other industrial fields. Service engineers are located in all major cities of the country.

Model A Aqua-Matic Water Circulator Announced

A NEWLY DESIGNED hot water circulating pump, the Aqua-Matic Model A, made by Louis Engineering Co., Chicago 40, Ill., has been announced. It is available in four sizes, 1, 1¼, 1½ and 2", and measures 15" in height, 10" long, 6" wide. The flange type 1/8 hp. Ohio motor base assures rigidity and elimination of vibration. Motor and shaft are mounted on sound-deadening rubber, with housing and motor mount of cast aluminum. Capacity of the four sizes ranges from 30 gpm for the 1" size to a maximum of 60 gpm for the 2" model.

Lapped seals are of hardened steel, chrome plated and carbon faced. They

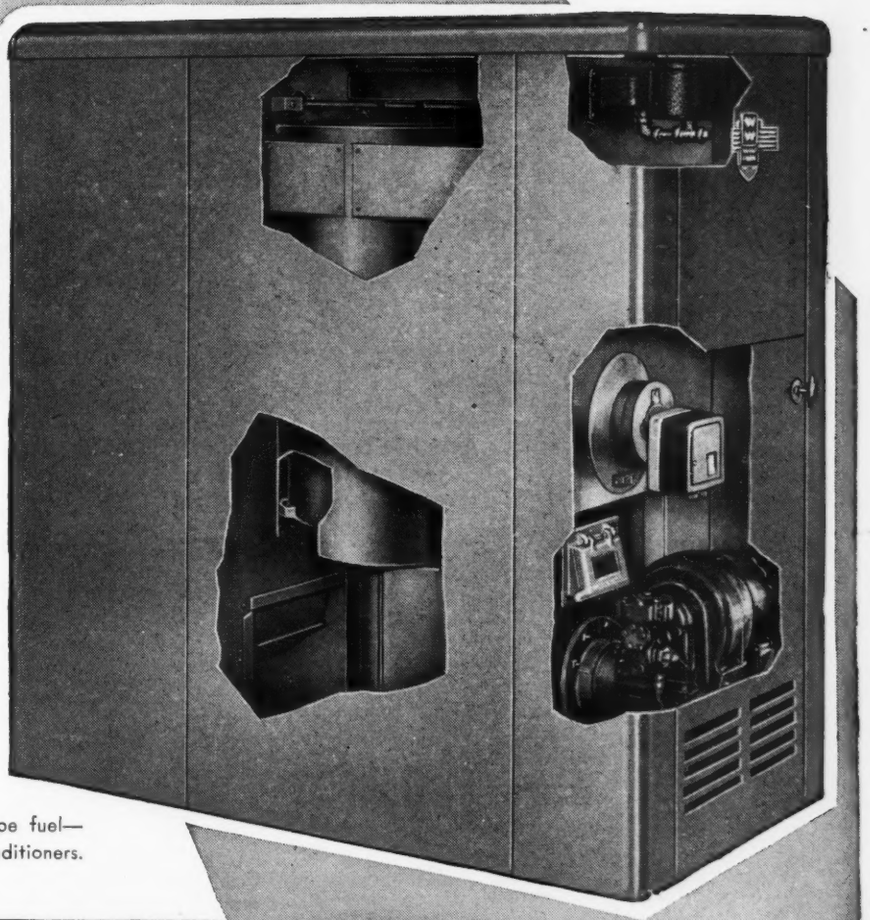


Waterbury

Oil Fired Air Conditioner

Whether you are installing a simple gravity job or the most complete air conditioner, it's what's under the casing that counts for your customer's satisfaction — and for a trouble-free sale for you.

It's What's Under the Casing that Counts!



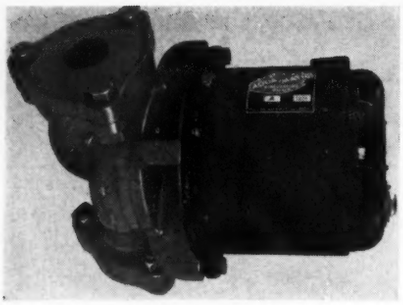
A modern, compact, attractive unit, economical to buy—economical to operate. It is enclosed in an eye-appealing casing that is a compliment to the most modern basement—but what is equally important to you—because of the efficiency and quality of what is UNDER that casing, you are saved annoying service calls.

Furnaces for every size home and every type fuel—from gravity models to complete air conditioners.

THE WATERMAN-WATERBURY COMPANY

1171 Jackson St. N. E. Minneapolis 13, Minn.

fuel oil & oil heat



are lapped to a micro finish and a stainless steel tension spring is used to take up any possible bearing wear. Aqua-Matic models can be installed in vertical or horizontal pipe lines, in either right or left-hand position. Neoprene gaskets and all mounting bolts needed for installation are furnished.

AP Auto-Air Kit Regulates Air In Relation To Fire Size

AP K-115 Auto-Air kit, developed by Automatic Products Co., Milwaukee 10, Wis., meters combustion air to booster draft equipped pot type oilburners in direct proportion to oil flow and size of fire. An Auto-Air shutter fits on the blower intake opening of most pot fans

and is wired in series with an electric top mounted on the constant level oil control. Both shutter and electric top are controlled by a heat-anticipating thermostat.

When the thermostat calls for heat, the electric top increases oil flow from pilot to high fire, and, at the same time, the shutter gradually begins to open. As the fire increases in size, the shutter opens wider, until, at high fire, it is wide open. Shutter, electric top, thermostat, transformer, wire and staples all are included.

Line of Gorman-Rupp Pumps Are Lightweight, Portable

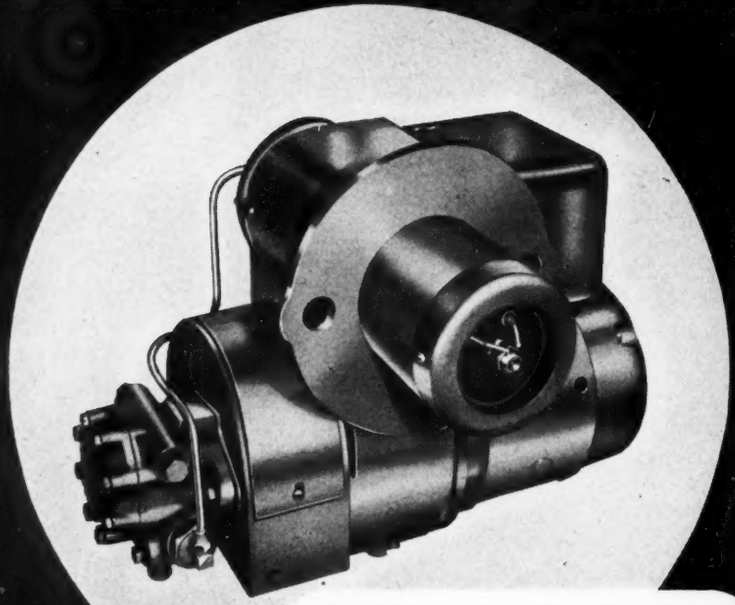
A LINE OF PUMPS, classified as general utility units for use where lightweight, easily transported pumps are needed, has been released by Gorman-Rupp Co., Mansfield, Ohio. Midget, 1½" pump, has a maximum capacity of 86 gpm; the Hawk, 2" pump, delivers 156 gpm and the Eagle, 3" pump, 280 gpm. Single cylinder, 4 cycle air cooled engines power the pumps, which are capable of maximum lifts of 30 ft. Faster, automatic priming features the units, which are of centrifugal type.

Capewell Cutter For Thin Wall Soft Tubing

MODEL NO. 100 cutter, announced by Capewell Mfg. Co., Philadelphia, Pa., operates by hand pressure and automatically adjusts itself to tubing from ¼" to ¾" diameter. Designed for thin wall, soft metal tubing, the cutter will handle dented as well as perfectly round tubing and is equipped with three special hardened cutting wheels. It is handy in close quarters because the wheels make a complete cut by rotating the tool slightly beyond a 120° arc.

Retracting guides insure a uniform

YOU FURNACE MANUFACTURERS!
At last a quality Oil Burner built specially for YOU at the Right Price



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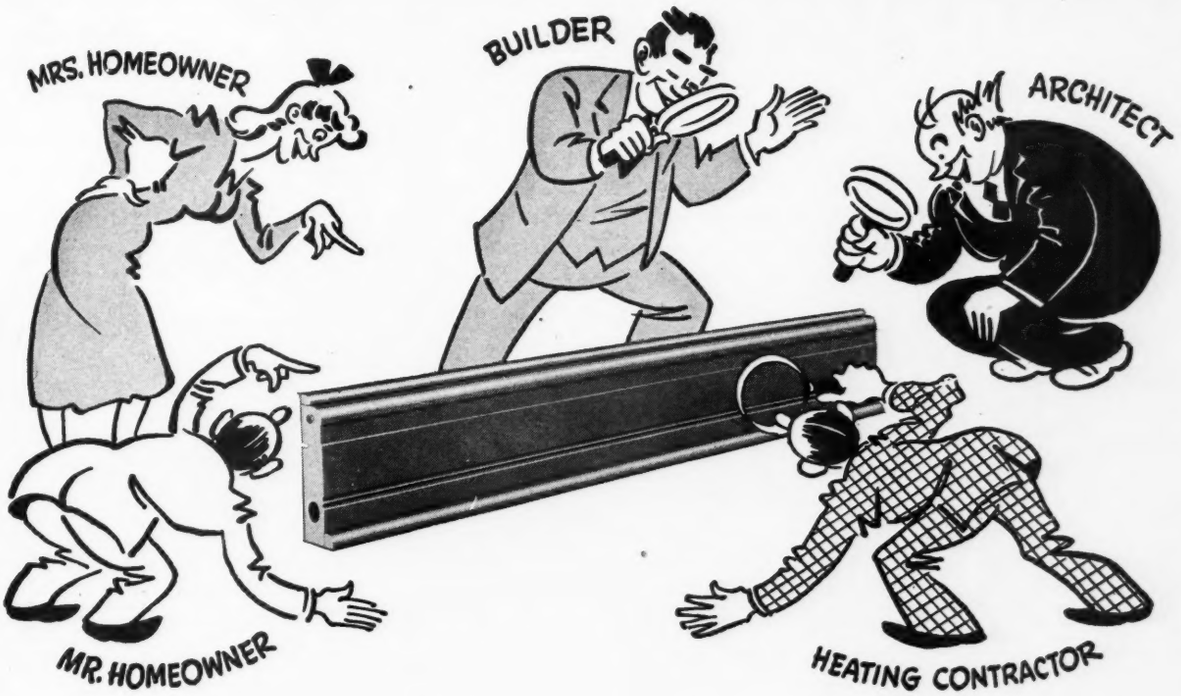
BOGUE OIL BURNERS • BOGUE OIL BURNER MOTORS • BOGUE OIL BURNER TRANSFORMERS

Why EVERYBODY'S *looking into* BASE-RAY—*a practical approach to radiant panel heating*



Remember, it was Burnham who *pioneered* the development of radiant baseboard panel heating. Burnham's BASE-RAY* Radiant Baseboards have now been on the market for nearly three years.

As time passes, Mr. & Mrs. Home Owner are going to be more and more frequently asking for your opinion of this sensational new method of radiant heating.

There are sound reasons why you can confidently recommend BASE-RAY Radiant Baseboards.

Our experience has given us ample opportunity to iron out the "bugs" which are usually present in any radically new product—and to work out installation procedures that time has proven are simple, practical and economical. Yes, Burnham's BASE-RAY Radiant Panels are an accepted and established product. They have already been installed in thousands of homes and have demonstrated their ability *in actual use* to live up to every claim we have made for them.

*Reg. U.S. Pat. Off.

BURNHAM
BASE-RAY
RADIANT BASEBOARD

Mail coupon below for Booklet which gives ratings and installation data on BASE-RAY Radiant Baseboards.

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"PIONEERS OF RADIANT BASEBOARD HEATING"

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Please send me copy of "Ratings and Installation Guide on BASE-RAY Radiant Baseboards."

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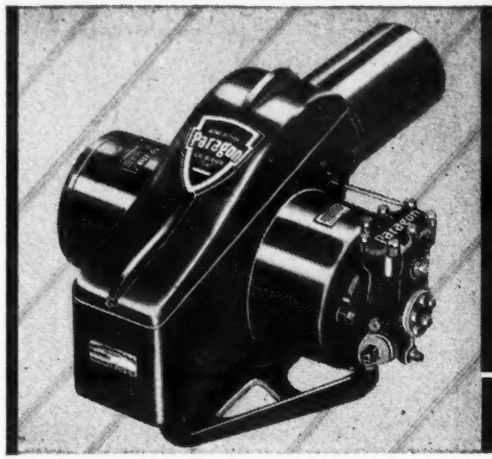
fuel oil & oil heat



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OIL BURNERS

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Make replacement installations with the famous fuel-saving Paragon Oil Burner. Write for our Dealer Proposition "F" today!
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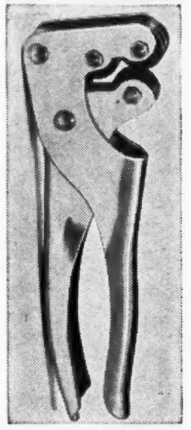
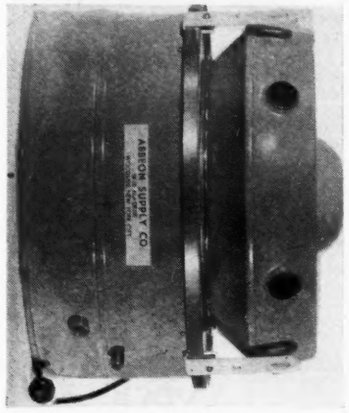


cut and protect the cutting wheels. The tool fits the hand and is nickel-plated. Sold only through wholesale channels.

Offers Fabricated Parts Of Bundyweld Tubing

BUNDYWELD steel tubing can be supplied by Bundy Tubing Co., Detroit 14, Mich., in completely fabricated parts, with fittings assembled ready for insertion into appliances. The tubing, which has been approved by Underwriters' Laboratories for use on oilburning appliances, is reported by the manufacturer to be used by many makers of oilburners, water heaters, boilers and furnaces. The tubing is represented as being low in cost and resistant to vibration fatigue.

The tubing is fabricated from a single strip of copper-coated S.A.E. 1010 steel, which is rolled twice around laterally into tubular form. The rolled tube then passes through a brazing furnace, where overlapping plies and seams are brazed, and then cooled slowly. Finished product is a solid, double-wall steel tube, completely copper brazed throughout the entire 360° of wall contact, with copper coating inside and outside.



Walton Industrial Humidifier

FURNISHED with automatic controls, a new self-contained humidifier, produced by Walton Laboratories, Irvington, N. J., has a vaporization capacity of 1 gph. The lower pan in the new model is completely covered, with air brought in from the bottom through a fiberglas filter. Equipped with hanging brackets, the unit can be easily installed and re-

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STAINLESS STEEL NOZZLES
SERVICEMAN'S NOZZLE KITS
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SKUTTLE FURNACE HUMIDIFIERS
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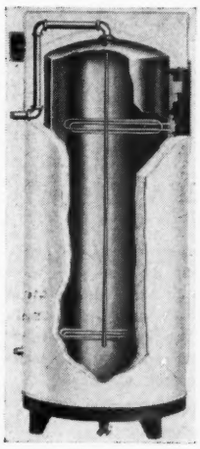
Our NEW ? FILTER
WATCH THIS SPACE

quires only a single water feed line. Directional domes can be supplied to cover 360°, or in single or double directional styles. All parts of the unit are constructed of heavy gauge copper, or other non-ferrous material.

Abbeon Supply Co., Woodside, N. Y., is a distributor for the Walton line, from whom details may be obtained.

Electric Water Heater By Michigan Tank & Furnace

LOCHINVAR electric water heater, newly announced by Michigan Tank & Furnace Corp., Dearborn, Mich., has a tank, galvanized inside and out by the hot dip process. Hot water outlet is located at the top of the tank and then drops down inside the casing to form a heat trap, eliminating circulation of hot water when faucets are closed.



Immersion type heating elements are sealed with a gasket between the element and tank, and are held rigidly in place by four bolts. Each element is equipped with an automatically operating thermostat. Cold water inlet, located near the bottom of the tank, is baffled directly above the inlet to diffuse incoming water and minimize mixing with hot water in storage. "Magnelife" magnesium anodes are available as optional equipment.

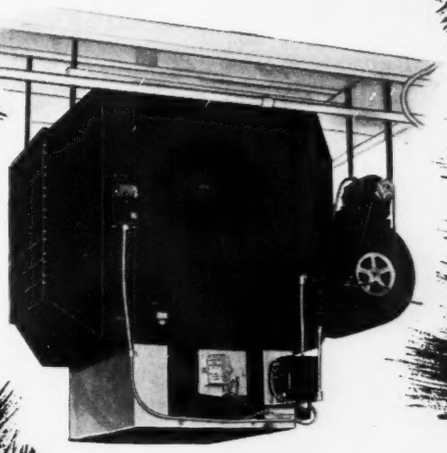
Meter Measures Velocities As Low As Five Feet Per Min.

AN IMPROVED air velocity meter, developed by Hastings Instrument Co., Inc., Hampton, Va., incorporates the basic noble-metal thermopile principle and is designed to measure accurately air velocities as low as 5 fpm. The lower half of the scale is expanded for accurate readings of velocities up to 200 fpm, and the upper half is compressed logarithmically for readings up to 6000 cfm. Instrument may be operated from 110 volt AC outlet, or from a portable battery operated power pack, con-

NEWEST OIL-FIRED
Automatic H.C.Little
CEILING FURNACE

A brand new and highly profitable market for many oil heating dealers is opened up by this latest H.C. Little CF-140 Ceiling Furnace . . . Completely assembled at the factory, including 100% electric control with no pilot light, this unit is ready for easy installation without ducts.

- Saves Floor Space
- Eliminates Ducts
- Conserves Scarce Oil
- Is Underwriters Listed for Garages, Service Stations, Factories



For areas requiring up to 140,000 B.T.U. output an hour, one unit is ample. For larger areas, two or more units are used. If the plant is enlarged, other furnaces are added without costly redesigning of a central heating system.

HERE ARE REAL SALES FEATURES—

LOW FIRST COST
LOW INSTALLATION COST
LOW UPKEEP COST
EXCELLENT HEAT DISTRIBUTION — Powerful, motor driven blower drives heat AWAY from ceiling, circulates warmth in working areas.
FULLY AUTOMATIC OPERATION — 100% electric control, with electric ignition, no pilot light.
LIGHT WEIGHT — Simple vaporizing burner, no moving parts, no refractory.
SAFETY — Listed by Underwriters' Laboratories for industrial plants and garages.
SILENCE — So far as we know, the only ceiling furnace with noiseless vaporizing burner that's U. L. listed.
HIGH CAPACITY — 175,000 B. T. U. input; 140,000 B. T. U. output.

OFFICES IN 18 PRINCIPAL CITIES

Write Dept. 2 for descriptive literature; other information.

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Dept. 2, San Rafael California

DEALER OPPORTUNITY

We have openings for a limited number of dealers

ACT FAST— ACT NOW

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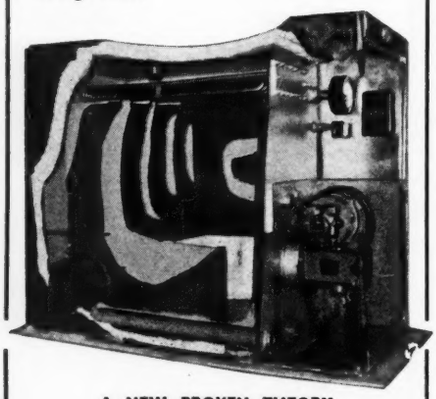
SEE WHY

RADIANT GLOW

OIL HEAT

is a better buy. With its Radiant transfer surface — counter flow principle — down fired — all steel — wet base boiler — built-in heat exchanger — instantaneous hot water coil — expansion tank built in — burner completely enclosed with extended jacket — low compact modern design — low operating cost.



A NEW PROVEN THEORY OF HEAT TRANSFER

NO TUBES — NO FLUES JUST RADIANT HEAT

Can any other boiler burner unit offer all the advantages incorporated in Radiant Glow?

Get all the facts about Radiant Glow Franchise today. A limited number of valuable territories still open. This is an opportunity any live wire organization can not afford to let pass by.

Invite our representative to call. Let him tell you of the advantages Radiant Glow oil heat and an exclusive franchise has to offer.

CLIP AND MAIL

LEHIGH VALLEY SERVICE CO.
29 South Sixth St., Allentown, Pa.

Please send me literature on your oil burners—at no obligation to me.

NAME .....

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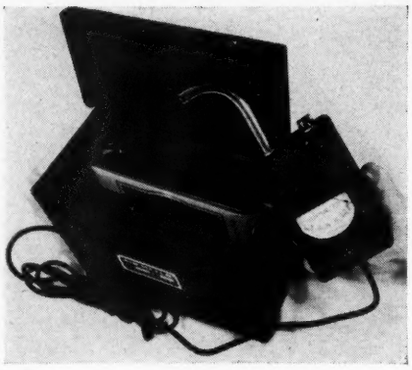

structed in a metal carrying case which includes room for the instrument and cable.

The thermopile, made of precious metals which resist contamination and corrosion, is installed in a ½" diameter probe which can be plugged directly into the case, placed on an extension wand or installed at a remote location. The meter is self contained and reads velocity directly, without the use of other equipment.

Chelsea Ventilating Fan Operates In Any Position

TYPE AA utility fans, available from Chelsea Fan & Blower Co., Inc., Irvington 11, N. J., are recommended for use where it is necessary to equalize temperature and humidity, for drying and cooling applications and to eliminate dampness by air circulation. It is especially adapted to any processes that need speed-up cooling by air blast or that require additional warm air. A model with a 20" fan delivers 3,000 cfm and another with a 24" fan is rated at 4,800 cfm.

The fans can be floor-mounted without any additional support, or can be suspended at any location or angle to direct the air flow in any desired direction. Steel, die-stamped and die-formed blades are standard equipment on the fans, which also are provided with front and rear safety guards.

Stewart-Hall Announces Boiler Treatment Compounds

TWO PRODUCTS, recently introduced by Stewart-Hall Chemical Corp., Mt. Vernon, N. Y., after field tests had been completed, are Steamaster and liquid Kleermaster. Steamaster is described as a powder which, when applied to inner boiler surface, absorbs oil, grease and slime. In most instances one can of the

Get This New Book

BASIC SERVICE TEXT

for

Pressure Type Burners

by G. T. KAUFMAN,
Technical Secretary
OIL-HEAT INSTITUTE OF AMERICA, INC.

This manual has been prepared for basic training of installers and service men in residential oilheating. It is also a most useful reference source to both individuals who have completed the training course, and others who are engaged in, or have any interest in, oilburner work.

Chapter headings will show the inclusive coverage of the book.

- **Oilheating**
- **Oilburner Installation**
- **Tanks and Piping**
- **Pumps, Valves, Strainers**
- **Fans, Air Supply**
- **Atomizing Nozzles**
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- **Ignition Systems**
- **Controls, Two Wire**
- **Controls, Three Wire**
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- **Gravity Warm Air**
- **Forced Warm Air**
- **Heating Load**
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- **Testing Efficiency**
- **Maintenance, Repairs**
- **Service Procedure**

Every service man can well use this book. Use the coupon to order today enough for your training and reference needs.

Price Two Dollars
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Fueloil & Oil Heat **Date** .....
232 Madison Ave., New York 16, N. Y.

Please send us ..... copies of BASIC SERVICE TEXT at two dollars each. Remittance is enclosed.

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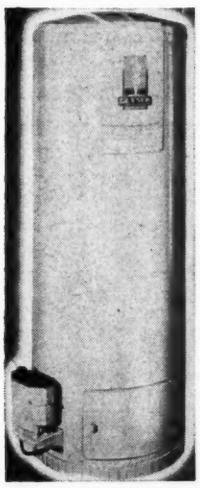
Address .....

powder removes the causes of surging and priming in a domestic heating boiler. Kleermaster, when used according to the manufacturer's instructions, is designed to arrest corrosion, especially in steel and tubular boilers. A one pint treatment is recommended to inhibit rust formation in the usual household boiler for a complete heating season.

The company, which produces STARCO chemicals for the heating industry, is ready to appoint regional distributors throughout the country and solicits inquiries. A campaign is being prepared to remind homeowners of the importance of conserving oil and having heating plants serviced and checked. Circulars will be available to service establishments and distributors in connection with the campaign.

New Model Sweeney Heater With 43 Gph Recovery Rate

A GEYSER oilfired water heater, newly designed by B. K. Sweeney Mfg. Co., Denver, Colo., is being offered in the 30 gal. size. Low operating costs are said to be a feature of this heater, which employs a vaporizing oilburner and requires no gas or electrical connections. Recovery rate of 43 gph is designed to furnish hot water requirements of a family of six.

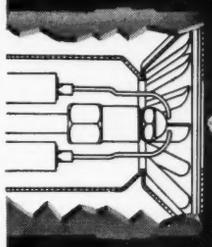


The firm has been active since 1942 in the manufacture of oilburning water heaters in various sizes. The new model is an addition to the line, for which John Sweeney, president, predicts greater public acceptance, "because of its greater economy, trouble-free operation and modern eye-appeal."

Allen-Bradley Switch For Starting 1 HP Motors

BULLETIN 600 is the designation of a manually-operated snap switch for starting motors of 1 hp or less, announced by Allen-Bradley Co., Milwaukee, Wis. The switch, housed in a molded plastic cover, has an overload device, operating

General Automatic's NEW COMBUSTION HEAD is a positive



Pat. Applied For

OLD WASTEFUL FLAME

SMALL HOLLOW-CONE "ECONO-MIZER" FLAME

FUEL ECONOMIZER

NOW, WHEN MOST NEEDED!

The New Combustion Head on the new Model G.A.F. (Conversion type) General Automatic comes when fuel conservation is so vital. General Automatic Engineers have worked on this new development for 10 years. It is such an amazing fuel saver that it is appropriately named the ECONO-MIZER.

SAVES FUEL

With a correctly engineered installation it facilitates a fuel saving up to 30%!

HIGH CO_2

Structural design gives a high CO_2 rate through use of an absolute minimum of air. 10% CO_2 without adjustment. Final settings realize an ultimate high as 15%.

SMALL INTENSE FLAME

½ size of old flame. Smoke and soot practically eliminated. Cleanliness heretofore unknown in oil burning.

BETTER COMBUSTION

Head provides instantaneous, constant mix of air and oil. New catalytic (unmixed) oils burn completely.

REFRACTORY NO PROBLEM

Minimizes need for tailor-made refractory.

NO RUMBLING

Objectionable combustion rumble has been completely or to a major extent eliminated.

SIMPLE, LOW COST INSTALLATION

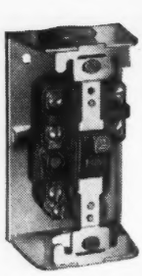
Write for particulars—how this new development can help you and your customers—particularly during the current oil shortage scare.

GENERAL Automatic

Established 1924

..... CHECKS FIRST WITH THE FINEST

GENERAL OIL BURNER CORP. 2300 SINCLAIR LANE BALTIMORE 13, MD.



on the soldered ratchet principle. It is impossible to hold the switch closed under sustained overload, but it can be reset easily, after the overload is cleared. Various types of enclosure are available to meet any industrial requirement, or the switch can be furnished without enclosure for mounting in switch box or machine base.

Ideal Voltage Tester For Circuits Up To 600 V.

A VOLTAGE TESTER for testing continuity of circuits, 110 to 550 V., A.C., 110 to 600 V., D.C., blown fuses, grounded side of line, grounded side of motor or appliance, excessive leakage to ground, 25 or 60 cy. frequency and D.C. polarity, has been developed by Ideal Industries, Inc., Sycamore, Ill. Reactions are by a solenoid indicator and a neon test lamp, which operate independently of each other. The tester has an easy-to-read calibrated scale, 2" leads and 4" test prod handles.

Metro Masonry Drills Packed In Handy Kit

SIX of the most commonly used sizes, 3/16 in., 1/4 in., 5/16 in., 3/8 in., 1/2 in., and 5/8 in., of Metro carbide masonry drills now are offered in a handy kit Metro Tool & Gauge Co., Chicago 30, Ill., packs the set in a leatherette case of durable construction. Operating instructions are furnished.

Model DCR-A Electric Time-Delay Damper Control

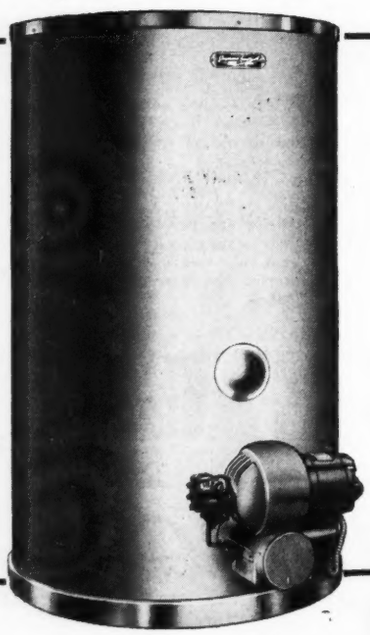
A CONTROL for medium and small-size boilers in commercial applications, designated model DCR-A electric time-delay damper control, is offered by Cleveland Fuel Equipment Co. It provides, in a compact cabinet, all elements for automatic control of stack draft. Features include a differential adjustment, selector switch to give complete manual control when desired, an emergency cut-out switch and an application plug to adapt the control to stoker, gas or oilfired installations. Three plug-in relays regulate time delay necessary for efficient control.

EDCO Nozzles, Strainers Packed Twelve To Carton

TWO NEW packages adopted by Eddington Metal Specialty Co., Eddington,

Pa., for shipment of EDCO oilburner nozzles, accommodate twelve tips with strainers, or twelve tips only. Each noz-

★ ★ ★ ★ **HIT** OF THE INTERNATIONAL HEATING & VENTILATING EXPOSITION IN NEW YORK CITY



BROWN ELECTRIC

AUTOMATIC OIL-FIRED BOILER-BURNER UNITS

Hot Water Heating • Steam Heating • Domestic Water Heaters

The Units That Pay For Themselves in Fuel Savings!

As you know, these units are completely arc welded from heavy boiler plate and boiler tubes—the most substantial and durable construction possible. Attractively finished in Gray Hammerloid with chromium trim—a beautiful finish in keeping with the quality of its interior construction.

They are made in 6 sizes, with radiation ranging from 300 square feet through 2160 square feet. BROWN ELECTRIC boilers are of the vertical, tubular, *percolating system* type, equipped with nationally known Underwriters listed oil burners. These boilers are NOT a "conversion" job, but engineered and constructed especially for gun type oil burners. Boilers and Heaters are insulated with 2 inches of Rock Wool.

For an abundant supply of instantaneous hot water, an internal Copper Coil can be supplied with each boiler. This coil can be easily removed and replaced.

Domestic Hot Water Heaters (*thoroughly galvanized within and without to prevent rust or rusty water*), are built on the same principle as the Automatic Oil-Fired Steam and Hot Water Boiler. Made in six sizes, from 65 to 650 gallons per hour.

BROWN ELECTRIC COMPANY

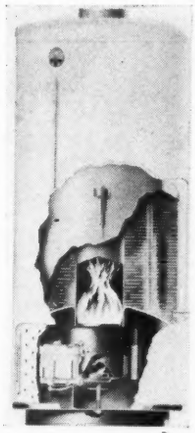
Forest Hills, New York

zle is boxed individually and then packed in boxes of twelve. Capacity and spray angle of each nozzle is marked on its container, as well as on the carton, so that inventory count is simplified.

The new container was introduced to facilitate storage and keep nozzles safe and clean, ready for immediate use.

Gillen Water Heater Offered In Two Sizes

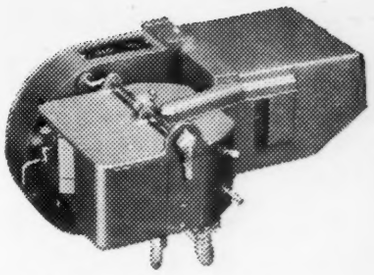
J. L. GILLEN CO., Dowagiac, Mich., in announcing a new model oilfired water heater, reveals it is available in a 30 gal. model with a 30 gal. recovery rate through an 80° temperature rise and a 45 gal. model with 35 gal. recovery rate through an 80° temperature rise. Controls are completely enclosed within the casing, making them immune to tampering and protecting them against damage by accidental bumping.



A low draft, vaporizing oilburner fires the heater and rests on a screw-jack support to permit lowering for servicing. The pilot, with built-in anti-flooding device, is not affected by variable drafts. A thermal bulb is employed to control water temperature automatically from 125° to 165° and the jacket is insulated with Fiberglas. A magnesium alloy anode, with current-limiting resistor, is designed to prevent electrolytic action, rust and corrosion.

Horizontal Type Vaporizing Range Burner By Reliance

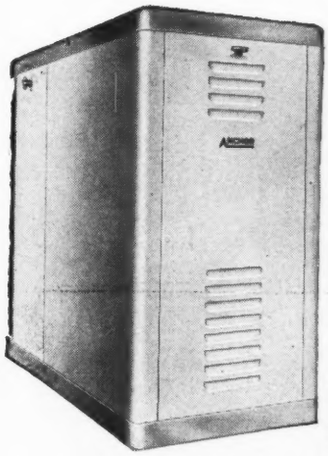
A VAPORIZING-TYPE range oilburner of the horizontal type, incorporating an electric igniter, has been placed on the market by Reliance Products Corp., Portland 14, Ore. The igniter is located adjacent to, but not in, the combustion chamber, to remove the lighter mechanism from high combustion temperatures and eliminate carbon formation on the element. Ignition of fuel is obtained by turning the oil-air control knob, pressing the electric switch and starting the igniter. Igniter mechanism operates only during the ignition period.



The burner fits any standard size wood or coal range, weighs 21 lbs. and measures 14" long, 12" wide, 8" deep. Shipping weight is 23 lbs.

Motor-Driven Psychrometer Announced by Honeywell

AN ELECTRIC HUMIDITY measuring device, announced by Minneapolis-Honeywell Regulator Co., Minneapolis 8, Minn., uses matched wet and dry bulb thermometers with scale readings from 40 to 120 degrees Fahrenheit. Reading temperature deviations within 1/5 of a degree, the instrument includes a large, specially prepared psychrometric chart to translate readings into relative humidity percentages. The complete in-



the new ANCHOR AIRE

OIL FIRED STEEL FURNACE

SELLS FAST!

For profit this year, offer the new ANCHOR-AIRE. Its beauty and thermostatic ease of operating will appeal to the ladies. Its mechanical perfection, economy and durability will appeal to men. And, both your prospects and you will be delighted with its surprising lack of maintenance. Anchor Division, Stratton & Terstegge Company, P. O. Box 311, New Albany, Indiana.

ANCHOR-AIRE FEATURES

1. Forced air circulation of required heat . . . no more . . . no less.
2. One unit, welded combustion chamber eliminates seepage of smoke and fumes.
3. Boiler plate steel furnace insures longer life without maintenance.
4. Baked enamel cabinet of cold rolled steel assures lasting beauty.
5. Flange-mounted, Pressure Atomizing type, Oil Burner.
6. Fully automatic controls guarantee properly humidified, constant heat.

MODERN OIL FIRED WINTER AIR CONDITIONER

ANCHOR AIRE

fueloil & oil heat

PROFIT NOW! WITH GRAND RAPIDS FURNACE CLEANERS

It's easy to get a lion's share of furnace cleaning profits when you use a Grand Rapids Furnace Cleaner. Greater cleaning capacity, handling ease and practically designed groups of furnace cleaning attachments help you give better service and clean more furnaces per day at a higher profit.

Act now! Write today for complete information and prices.

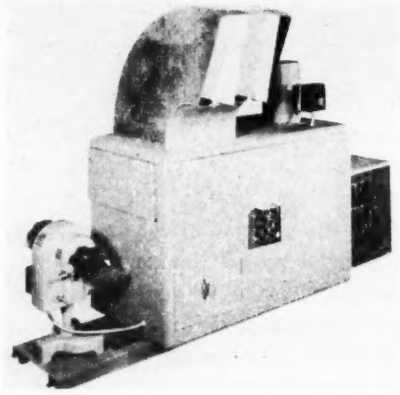
DOYLE VACUUM CLEANER CO.

233 Stevens St., S.W. Grand Rapids 7, Michigan

strument includes a wick, thread, scissors, distilled water, carrying case and, if desired, an adapter to be inserted in duct work, or similar enclosure, to obtain readings by drawing air from the enclosure by the psychrometer fan itself.

Sermat Portable Furnace For Commercial Buildings

A COMPACTLY DESIGNED oilfired furnace, developed by Service Metal Fabricators, Inc., Chicago 36, Ill., is equipped with steel skids to facilitate moving from



building to building or to permit mounting on a truck or trailer. Designed for use in commercial buildings, it is fired with a gun type burner and has a bonnet rating of 120,000 Btu/hr, free air delivery of 2,800 cfm.

Unit is furnished with combination fan and limit control, automatic stack control, automatic humidifier, large capacity air filter and is finished in gray wrinkle enamel. Its design permits use as a space heater with plenum mounted on top of the furnace, or it can be connected to duct work.

Zeph-Air Furnace Unit Fired With Gun Burner

MODEL OZ-1C, offered by XXth Century Heating and Ventilating Co., Akron 1, Ohio, is a Zeph-Air oilfired furnace unit, with a rating at the bonnet of 110,000 to 128,000 Btu/hr. A high pressure atomizing oilburner fires the unit, which features a secondary heating unit through which the blower-filter unit draws air. Function of the secondary heater is to partially warm incoming fresh air before it is forced into the primary heating chamber. The furnace is of cast-iron construction and requires less than eleven sq. ft. of floor space.

The unit is furnished complete with all controls necessary for automatic operation and includes a total of 5600 sq. in. of heating surface. Combustion chamber is cast-iron, refractory lined.

Sure-Flo Water Circulator Available From Amerform

FOUR SIZES of vertical type water circulators are being offered by Amerform Corp., Philadelphia 7, Pa. Long hour motors and low friction, high head bronze impeller blades are standard on the 1", 1¼", 1½" and 2" sizes. All models are tested to 50 lbs. pressure and are sealed with a leak-proof rotary seal. A capacity chart shows a range of delivery rates from 25 to 47 gpm, heads of water ranging from 4' to 7'. An oversize oil reserve provides lubrication said to be effective for one year.

Automatic Humidification With Self-Contained Unit

A UNIT, supplied with four atomizing nozzles, has been announced by Spraying Systems Co., Chicago, Ill., to provide automatic humidification. All essen-

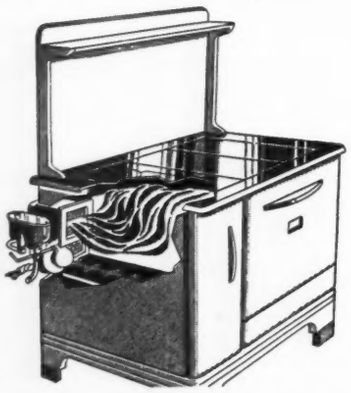
Profits!

Through the

SUPER-THERM

Combination

OIL BURNER



SALES prospects for this modernizing, easily installed oil burner are *all* owners of gas, wood and coal stoves and ranges. Super-Therm fits any size stove, front or rear —will last a lifetime—will not soot or smoke—has automatic safety features. Write now for details and *dealer profit* facts.

THERM OIL BURNER CO.

Pioneers of the Oil Burning Industry

2105A Westlake Avenue

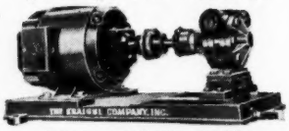
SEATTLE 1, WASHINGTON

KRAISSL

PUMPS AND SEPARATORS

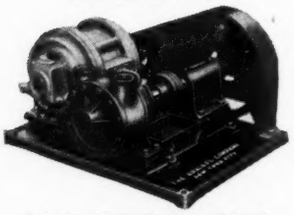
FOR OIL BURNER SERVICE

CLASS 50 LIGHT OIL PUMPS
DIRECT DRIVE FOR
#1 TO #5 OILS INCLUSIVE



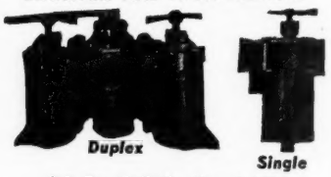
Ask For Bulletin A-1330

CLASS 60 HEAVY OIL PUMPS
REDUCTION DRIVE
FOR HEAVY OIL



Ask For Bulletin No. A-1193

CLASS 72 STRAINERS AND FILTERS
SINGLE AND DUPLEX
QUICK CLEANING
STANDARD AND HIGH PRESSURE



Duplex *Single*

Ask For Bulletin No. A-1214

CLASS 80 TRI-ROL PUMPS
INTERCHANGEABLE SERVICE
BOTH LIGHT AN HEAVY OILS
TANK TRUCK AND BULK STATION

Ask For Bulletin No. A-1366

295 WILLIAMS AVE.

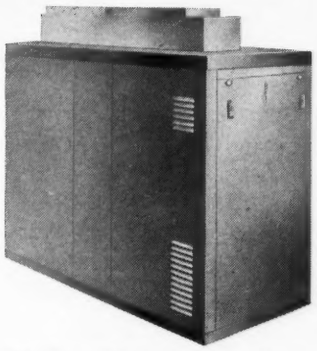
THE KRAISSL COMPANY

HACKENSACK, N. J.

A Sure-Fire SALES BUILDER . . . Kaustine "COMPLETE PACKAGE" WINTER AIR CONDITIONER

OIL FIRED

Assure your customers of the maximum in heating comfort and compete in the widest possible market with Kaustine "Sales Engineered" Automatic DeLuxe equipment.



★ The "Complete Package" unit includes Furnace, Burner, Controls and two 275 gallon Storage Tanks (with underwriters' label).

"Sales Engineered"
FOR LARGER MARKETS and GREATER PROFITS!

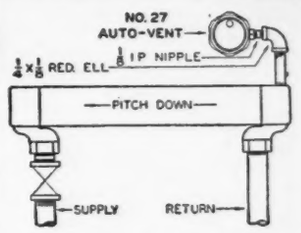
Designed and Manufactured by
KAUSTINE COMPANY, INC.
PERRY, NEW YORK

HOW TO GET PERFECT CIRCULATION in *Hot Water Radiators and Convectors*

AUTO-VENT AIR ELIMINATORS REALLY DO A JOB!

As air accumulates in radiators or pipes, it is AUTOMATICALLY VENTED when you use these inexpensive No. 27s. Your customer gets better heating and saves fuel.

AUTO-VENTS work equally well on convectors, baseboard radiation, panels, radiant heating coils, etc. — NO AIR CHAMBER REQUIRED. Good for pressures to 50 lbs. *See your jobber, or write us direct.*



SIMPLE AS A-B-C

Detailed drawing of No. 27 Auto-Vent Air Eliminator operating on convector radiator. Auto-Vents used on other types of jobs are just as easily installed — and no attention required.

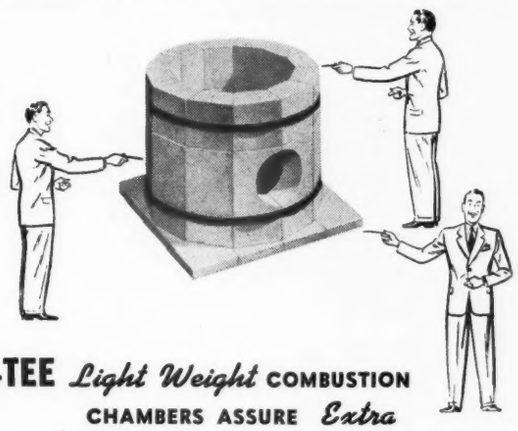
MAID-O-MIST INC.

3221 N. PULASKI RD.
CHICAGO 41, ILLINOIS

AUTOMATIC HUMIDIFIERS FOR ALL TYPES OF HEATING SYSTEMS

"JAY-TEE" *Measures Up...*

TO EVERY REQUIREMENT *for a Rapid Heating . . . Low Cost . . . Light Weight Combustion Chamber for Your Conversion Burners!!!*



JAY-TEE *Light Weight* **COMBUSTION CHAMBERS ASSURE** *Extra* **PERFORMANCE**

Features:
- Longer Life
- Cleaner Heat
- Oil Miser
- Easily Installed
- Fewer Service Calls
- Vermiculite backfill included.

Jay-Tee combustion chambers for oil burners are available from 1 GPH up.

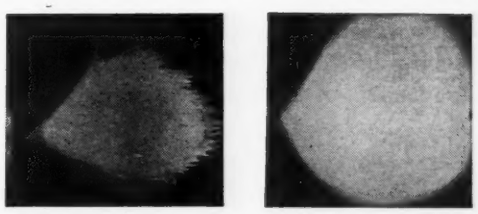
For better service . . . lower fuel bills . . . more satisfied users . . . specify JAY-TEE Light Weight combustion chambers.

For additional data write:

TAYLOR REFRACTORIES & INSULATION CO., INC.
2006 Madison Road, Cincinnati 8, Ohio

This Change

Saves 30% On Any Burner.



Same Burner, Same Tip. Actual photos from open flames.

For our Franchised Dealers we rebuild replaced burners with Hollow Flame AIRFLAME Combustion heads.

We need Manufacturers Agents to present the greatest improvements ever known in Oil Burners and Boiler-Burner Units, and write Exclusive Franchises for Qualified Dealers everywhere. Boiler-Burner Units retailing from $364.00.

Dealers qualified to sell, install and service write for direct Factory Franchise.

Airflame

648 McAlister Ave. **Waukegan, Ill.**

tial parts are built into a compact cabinet, containing the nozzles, water tank with float valve, water strainer, air filter, air regulator with pressure gauge and solenoid operated valve. A separate humidistat, which can be installed where desired, regulates operation of the unit to maintain any relative humidity.

The nozzles, which can be individually adjusted for position, will atomize 35 lbs. of water per hours, using 5 cfm of atomizing air. Smaller sizes also are available.

Masters Metallic Compound

A PRODUCT of James K. Harbinson & Co., Inc., Buffalo 2, N. Y., Masters Metallic Compound is described as having the ability to remain plastic and seal effectively without bonding or galling when applied to threaded fittings. It deposits a babbitt-like film of metallic lead on each stud thread, protects metal parts against corrosive action, but permits fittings to be removed readily at any time. As a sealant, the compound is insoluble in all petroleum products and stops leaks in air lines, at valves, unions and receivers. It is described, also, as functioning as a gasket between metal surfaces and acts as a preservative when in contact with asbestos, cork, rubber or fibre gaskets. When applied as a special purpose lubricant it improves operating efficiency of pumps and prevents shaft scoring.

Type S Sangamo Time Switch

AN UNUSUALLY SMALL time switch, introduced by Sangamo Electric Co., Springfield, Ill., has overall dimensions of approximately 3" wide, 5⅜" high and

3" deep. Adjusting the switch for automatic operation requires moving two levers, one for the "on" setting, the other for the "off," into any of the 15 minute steps on the 24-hour dial. Minimum period between automatic settings is 30 minutes. An outside lever permits manual switching at any time without disturbing the automatic operations.

Synchronous, self-starting, low speed motors power the switches, whose design allows mounting on a standard switch box or surface mounting on any wall.

A MIDGET BURNER
***that does a* GIANT'S HEATING JOB**

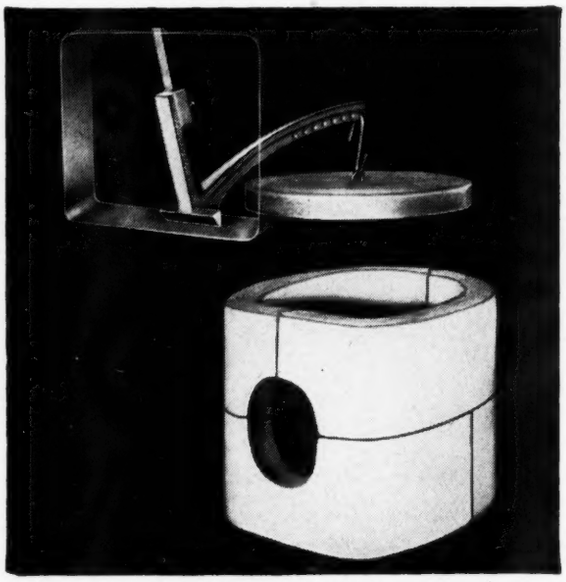
***Kres-Kno* BALL FLAME *Oil Burner* —**
meets every heating need for small or medium size homes.

Convenient because its automatic
Economical because of its patented principle of vaporization

The Kres-Kno BALL FLAME Oil Burner is internationally known—is used throughout the world. Extensively used by leading furnace manufacturers.

Send for details

KRESNO-STAMM MANUFACTURING COMPANY
Oil Burning Equipment—Since 1927
345 Commercial Avenue, Palisades Park, N. J.
In Canada: 1452 Drummond St., Montreal
In Europe: Dublin, Erie and Lisbon, Portugal

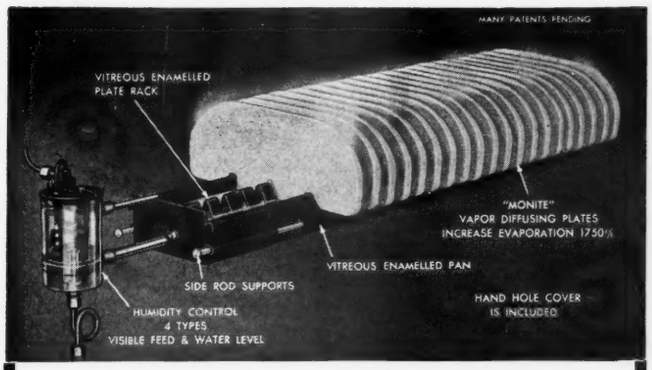


5 MINUTES TO INSTALL

8% to 15% Oil Saving
if you install
MYKA-DISK AND DISK-ARM (Pat. Appl. For)

SPEEDS UP HEATING. Lowers Stack Temperature. Permits higher CO_2 readings. Decreases Formation of Soot. Lowers Combustion Noise, and pays its way in a few weeks. Send for BULLETIN No. 15 (Free)

INSULATION & REFRACTORIES CO.
WILLIAMSON . . . . WAYNE COUNTY . . . . N. Y.


MANY PATENTS PENDING
VITREOUS ENAMELLED PLATE RACK
"MONITE" VAPOR DIFFUSING PLATES INCREASE EVAPORATION 1750%
VITREOUS ENAMELLED PAN
SIDE ROD SUPPORTS
HUMIDITY CONTROL 4 TYPES VISIBLE FEED & WATER LEVEL
HAND HOLE COVER IS INCLUDED

MONMOUTH HUMIDIFIERS

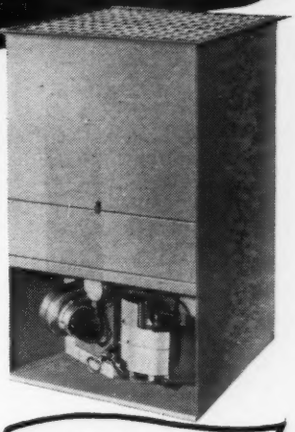
• This accessory is really an outstanding PROFIT ITEM for any dealer! You do not have to carry a large stock —with *three sizes* selected from the entire Monmouth line, you cover about 80% of all installation requirements. Get our price on this 3-package kit, with your recommended sales price, and then figure up the nice profit you have every time you put in a Monmouth. Installing a humidifier alone is a profitable job, and when added to furnace repair, reset or replacement work, it is doubly worth while.

Every warm air system, new or old, needs healthful, automatic humidification. For dependable service and trouble-free efficiency, Monmouth leads them all—correctly engineered, conscientiously built—no headaches afterwards. We also make Monmouth Humidity Conditioners for all radiator jobs. Details and prices on request.

THE CLEVELAND HUMIDIFIER CO.
7808 Wade Park Ave., Cleveland 3, Ohio.

MORE PROFITABLE BECAUSE IT'S A

Package Unit FLOOR FURNACE



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KEY SPECIFICATIONS: 50,000 BTU/HR output; register, metal-plated with statuary bronze; casing 24" wide, 24" deep, 43" high. Listed with Underwriter Laboratories. Write for more complete details.

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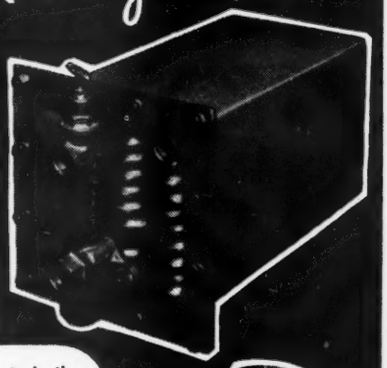

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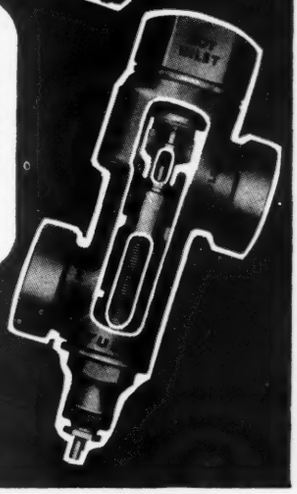

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FROM THE MALE OF THE MONTH

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Dear Earl:

This is just a reminder that you have a date in Chicago during the week of April 5th. We are going to be there in full force at the oil burner show with an exhibit of our complete line.

Now, Earl, here is a special request. Please leave your Aunt Lou at home this year. She is a nice girl but she sure cramps your style. Besides the boys do not want to spend their evenings playing checkers in our hotel room this year.

Incidentally, we are going to run a contest at our exhibit and you may win a valuable prize.

See you in Chicago, April 5th to 8th, Booth 109.

Yours for a prosperous 1948

John

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Sales Literature

BRIEF DESCRIPTIONS of catalogs and sales literature prepared and offered by manufacturers appear below. Those interested in securing copies of the booklets, or additional information on products described, are urged to write direct to the manufacturers.

Fitzgibbons Boiler Co., New York 17, N. Y. A 6-page bulletin, describing 400 series domestic steel heating boilers. Covers subject of steel heating boiler selection, standards, construction and design, illustrating the features with jacket and boiler shell cut away. Complete specifications and dimensions for five sizes are given.

Michigan Tank & Furnace Corp., Dearborn, Mich. Two folders—one describing Lochinvar oilburning water heaters, the other, Comfortzone oilfired water heaters and boilers. Lochinvar water heaters, fired with vaporizing burners, are shown in cut-a-way views to point out features and illustrate pilot, intermediate and high fire. Specifications and recovery rates are included. The gun type oilburners, firing Comfortzone heaters and boilers, are shown, with details of mounting on the units. Interior views demonstrate construction of spiral fire tubes and other features. Dimensions and specifications are listed for water heaters and boilers.

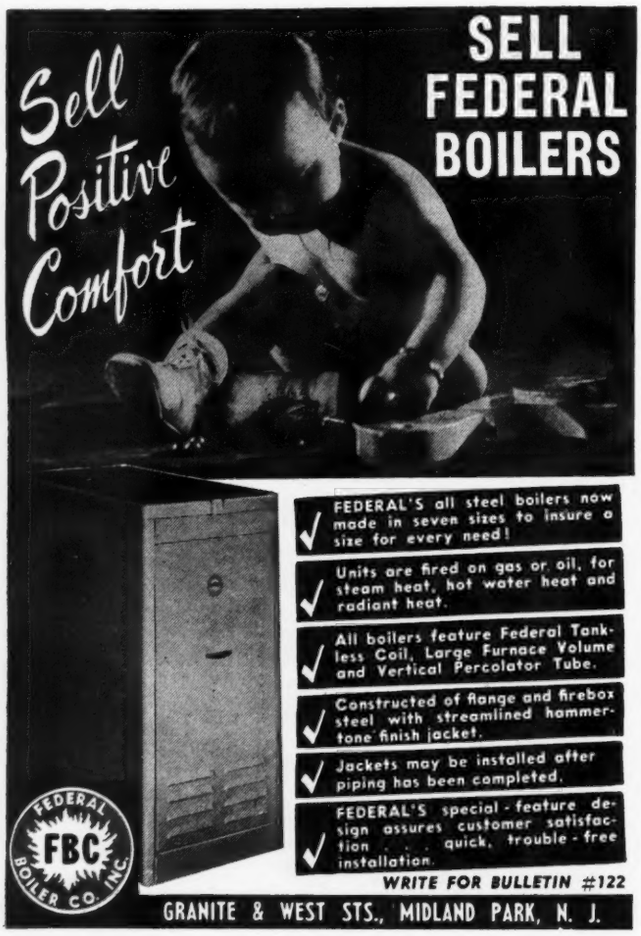
Stewart Mfg. Co., Inc., Bloomfield, N. J. Catalog 48 gives technical and price data on high velocity outlets, scoopaires, wall and baseboard registers. Diagrams and illustrations, with detailed specifications and supplementary material for each type and size, appear in the catalog. Offered as a handy reference aid in solving problems encountered in specifying and using equipment of this type.

Super Electric Products Corp., Jersey City, 7, N. J. A mailing piece wherein the company discusses details of a transformer replacement package available to jobbers and distributors. Shown are six transformers with different mounting plates and terminals in various positions to accommodate a large number of standard makes.

Monogram Products Co., Philadelphia 4, Pa. Specification sheet #SP-8, devoted to technical information, dimensions, weights and installation data for precast combustion chambers. Information folder #A-2 contains information of general interest on precast combustion chambers.

Stanley C. Paterson, Boston 18, Mass. Waltham model S gun type oilburner is described and pictured in a 4-page folder. Specification table includes data also for models J and K. Inside pages are devoted to a complete description of the fuel saving properties of the burner and the effectiveness of the Shell Combustion Head, with which it is equipped. Component parts are described separately.

Boston Machine Works Co., Lynn, Mass. A series of folders on individual products. Separate pieces are devoted to Instant Glo refractory combustion chambers, Boston chrome steel firebox baffle, Ideal nozzle extractor, Apthorp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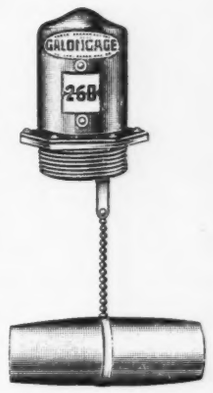

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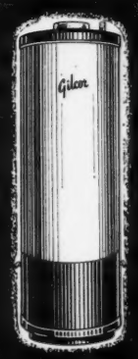

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FLOOR FURNACES
AIR CONDITIONING FURNACES

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nozzles, Boston Breese burners and Clearview fueloil storage tank gauge. Descriptions included for each item explain operation and use of the equipment, with emphasis on features. Capacity and specification tables give pertinent data.

Babcock & Wilcox Co., New York 6, N. Y. A sheet expounding helpful facts about fireboxes for gun type oilburners. Discussed first is the importance of properly sized and installed combustion chamber, followed by an explanation of the advantages of using B & W firebrick. Copy and diagrams point out features of B & W refractories and how their use results in quieter, more efficient operation.

Ronci Machine Co., Centredale, R. I. Booklet containing installation instructions for models R-1A-5 and R-1A-6 Ronci gun type oilburners. Complete with information and diagrams detailing method of installing tank and piping, setting of nozzle and electrode assembly and wiring. Recommended firing rates, combustion chamber sizes and instructions for regulation of burner are included.

Stefco Steel Co., Michigan City, Ind. Four page folder on Panelox stainless steel combustion chamber, with drawings and photographs to illustrate method of assembly and installation. Includes a chart to show time and temperature graph for off and on cycle.

Viking Air Conditioning Corp., Cleveland 2, Ohio. Two folders, one describing humidifiers for application to all types of furnaces. Component parts for different models are shown, with instructions on installation procedures. Humidification accessories also are discussed. The second folder deals with a blower package to convert any gravity furnace into a forced circulation unit. The package, blower, motor and air filter, is pictured, with a table listing dimensions, capacity and performance data.

General Electric Co., Bridgeport 2, Conn. Data sheet on Master-Vac 175 furnace and boiler vacuum cleaner. Shows each part and attachment, including those for cleaning chimneys and ducts, and lists specifications. A smaller folder, containing similar information, discusses briefly each accessory and its function and illustrates the cleaner's portability.

Refractory & Insulation Corp., New York 5, N. Y. Data sheet on DeLuxe combustion chamber, featuring a grooved base to hold side sections. Designed for jobs burning 1.25 to 1.65 gph., with extension pieces for larger jobs, metal bonding clips hold segments at the top. Assembly is explained and illustrated. Reverse side of the sheet describes standard combustion chamber, Stic-Tite inulating cement, #3000 refractory cement, Pakinsul rockwool and hearth cement.

Richfield Mfg. Corp., New York 16, N. Y. Flame Control oilburners are the subject of a folder. The gun type burner, rated from ¾ to 6 gph. in one model, is equipped with a turbulator head, de-

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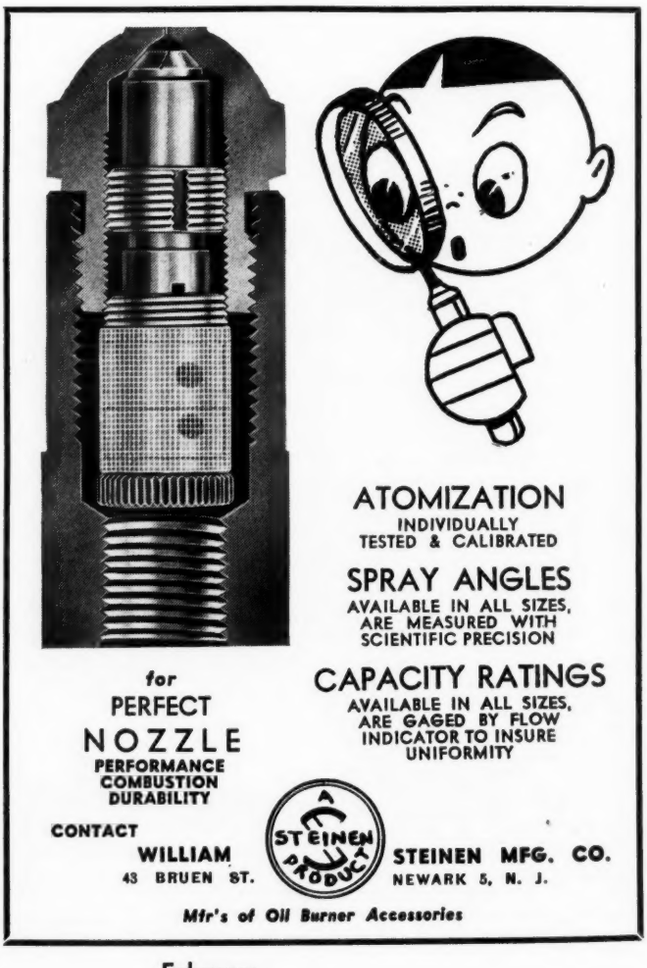

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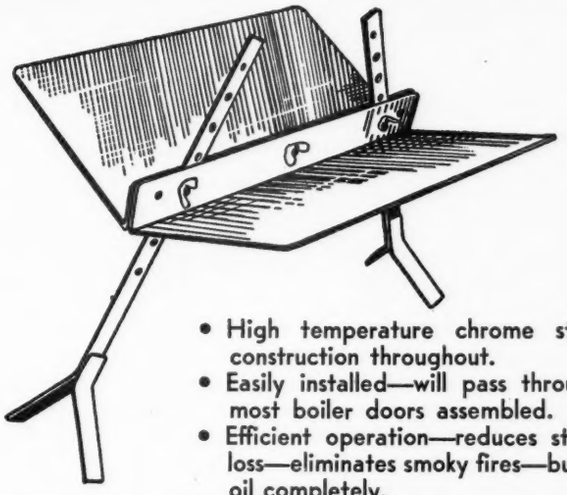

- High temperature chrome steel construction throughout.
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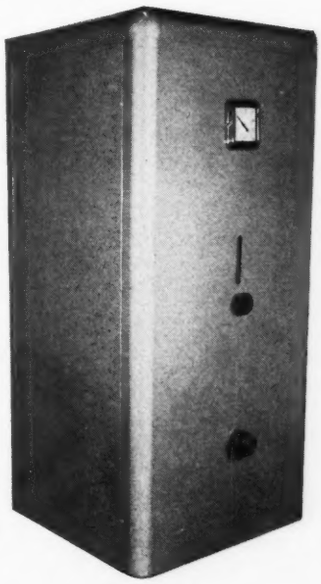

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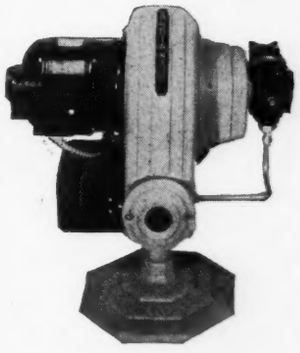

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signed to meter and measure the amount of air mixing with the oil and to combine them properly for combustion. The head is pictured and its functions explained.

Beaton and Cadwell Mfg. Co., New Britain, Conn. Includes descriptions of radiator air valves, bottom outlet and angle types, in a 4-page folder on heating and plumbing specialties. Other items covered are relief valves for range boilers or pressure tanks, pressure relief and reducing valves and strainers, floor and ceiling plates. Prices, dimensional data and capacities are shown.

Fairfield Oil Htg. Co., Inc., Greenwich, Conn. Envelope stuffer on Models P and J gun type oilburners. Capacities in gph. are listed for each model, which is pictured. Copy emphasizes that since 1918 the company has been devoting its effort to constant improvement of its product.

Automatic Devices Co., Chicago 4, Ill. A complete set of twelve simplified wiring diagrams for Weather-Man outside-type building temperature control. Combined with a dealer's booklet, the diagrams show how to wire for direct control of automatic firing equipment, circulating pumps or zone control valves. The controls are applicable to any type of building, small or large, heated by steam, hot water or warm air.

Hydrovalve Co., New York 18, N. Y. Catalogue No. 47 dealing with oilburner replacement parts, such as gaskets, cut-off seats, compression and flared tube fittings. A variety of sizes and types of each is shown, with price and other data included. Information and brief descriptions are given also for a bellows wrench for Detroit pressure regulating valves and two types of air bleeder valves for fuel units.

Ret-Rac Corp., Flushing, N. Y. Four-page folder on Uni-Heat gun type oilburners. Four models are pictured, accompanied by capacity ratings and suggested applications. An entire page is devoted to a cut-a-way drawing of the burner interior, with features indicated. Back page contains a picture of a flame developed by the burner and provides space for dealer imprint.

Kent Co., Inc., Rome, N. Y. Makes Kent double suction furnace and boiler vacuum cleaners the subject of a 4-page folder. A drawing of the unit, with labelled arrows pointing out features, illustrates the two sections into which the cleaner can be separated for convenient handling. Specifications are given, standard equipment and optional attachments listed.

U. S. Machine Corp., Lebanon, Ind. Data sheet on Winkler LP gun type oilburners. The burner, available for base or flange mounting, operates on the low pressure principle, which is explained in detail. A labelled diagram indicates parts and assembly dimensions. Specifications appear in a separate table.

Silent Glow Oil Burner Corp., Hartford 6, Conn. Specifications sheets on model SW and Hudson Bay models of range burners. Both models are pictured assembled, and component parts shown on the same page, with brief descriptions of features. Reverse side of the

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..IT'S SOMETHING YOU'VE WAITED FOR!
See our Color Page in March FUELOIL & OIL HEAT
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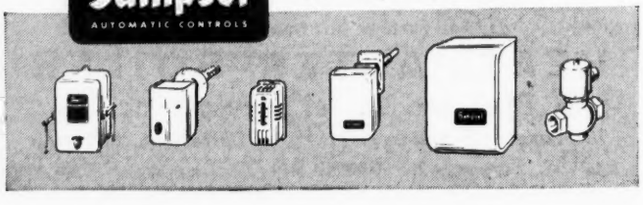
AUTOMATIC CONTROLS



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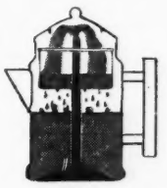

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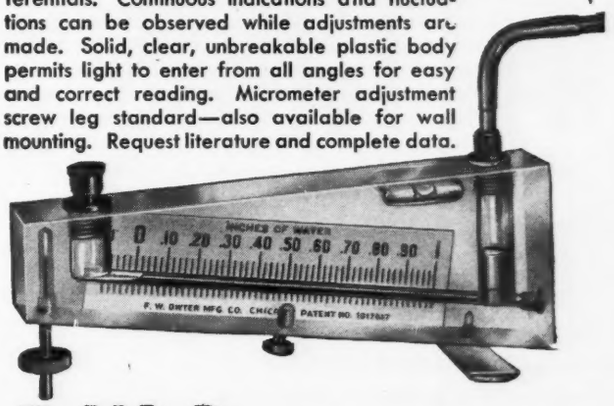

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Pot type oil burner carbon reamers.

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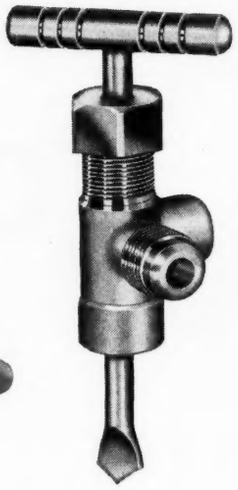

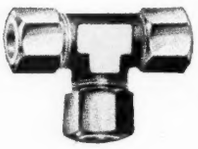

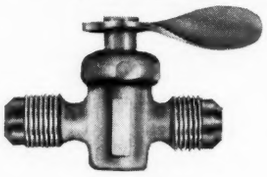

sheets contain exploded views to illustrate how the units are assembled, accompanied by specification data. Oil feed equipment, metal tank, glass bottle, constant level feed valve and automatic electric pump, also are shown.

F. W. Dwyer Mfg. Co., Chicago 12, Ill. Five illustrated bulletins on draft and filter gauges and manometers. Bulletin No. 171 features plastic tube manometers; bulletin No. 176 is devoted to a transparent hook gauge; No. 187 describes a line of air filter gauges; No. 205 discusses portable and stationary draft gauges and No. 165 is concerned with "Air Velocities with the Dwyer Pitot Tube." Solid, transparent plastic tubing and blocks are used in manufacturing the above instruments.

Airtemp Div., Chrysler Corp., Dayton 1, Ohio. Folders on conversion gun type oilburners and winter air conditioning unit, fired with vaporizing burner. The conversion burners are shown assembled and with portions of the housing cut away to show parts, which are pointed out by numbered arrows and described separately. Functions of the Vapor-Flame winter air conditioner are discussed, accompanied by pictures and drawings to show component parts and construction features of burner and unit. Capacities and dimensions for the furnace, which can be provided with gravity or forced circulation, are listed. A third catalog titled, "A complete line of heating, air conditioning and refrigeration equipment" contains data and descriptions for all models manufactured.

Gilcor Products Corp., Dowagiac, Mich. Data sheets on Gilcor oilburning water heaters, floor furnaces and Rudy-Gilcor oilfired hot water supply boilers. Each product is pictured normally and shown in cut-a-way view to illustrate construction and operating features. Specifications and capacities are listed for the units, all of which are fired with vaporizing burners.

W. B. Connor Eng. Corp., New York 16, N. Y. A 32-page catalog and engineering data book on KNO-DRAFT adjustable ceiling air diffusers. It contains information and data necessary for proper selection of diffusers and includes much information of a general nature on the subject of air diffusion, presented in a graphic and simple manner. Fully explained is the ability to adjust the diffusers after installation to direct the air supply at any angle from vertical to horizontal. Two external adjustments to accomplish this are made independently of each other.

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ROCKFORD, ILLINOIS

WEBCO TRI-POD Refractory Baffle

A PRODUCT OF McLEOD & HENRY CO., INC.

A. R. WEBBER CO., INC.
DEPT. 61
NEW HAVEN 11, CONN.

The WEBCO Tripod Baffle is fully guaranteed, is flexible, saves fuel. The removable legs are available in either No. 1 size for chambers up to 12" diameter or No. 2 size for chambers up to 14".

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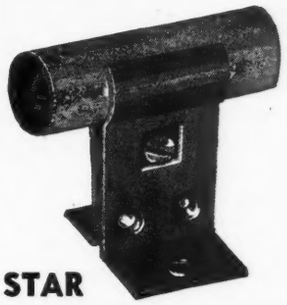
EVERYTHING FOR THE OIL BURNER TRADE



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CONDUIT BRACKET

FAST, NEAT, QUIET

The Star conduit bracket holds 14-2 or 14-3 bx cable or ½" conduit to furnace or boiler casings. It provides air space between conduit and heated surface as required by electrical codes and reduces conduit hum. PRICE $5.50 PER HUNDRED. *Free sample on request.*

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INCREASES EFFICIENCY—

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The Star Firebox is made of high heat resisting stainless steel formed in rounded sections that improve firing. IT IS EASILY ASSEMBLED IN LESS THAN 3 MINUTES. HEAT IS RADIATED ALL AROUND THE Star Firebox thereby adding up to 25% to the furnace heating area! Especially useful in cast iron furnaces where it eliminates cutting grate lugs. Sold and used from coast to coast.

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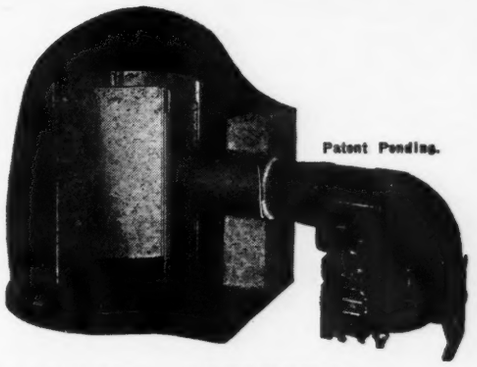

Patent Pending.

MECHANICAL PRODUCTS COMPANY

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Conn. Catalog 45R and C6R. The former contains technical and application data on grilles, intakes and registers for residential and commercial air conditioning, heating and ventilating installations. Many tables, including those developed by the company for simplified selection, are listed. Full size details show design of various stamped metal grilles. Catalog C6R is a discussion of standardized copper convectors, complete with an explanation of the convector principle and tables giving list prices, steam and hot water capacities. Dimensional drawings illustrate proper installation of recessed, free-standing or semi-recessed convectors.

Dorn Eqpt. Co., Boston 10, Mass. Data sheet 51-T, picturing and describing Palmer oilburner ignition transformers. Dimensions and electrical ratings are listed for No. O.B.-1.

Heating Show Products

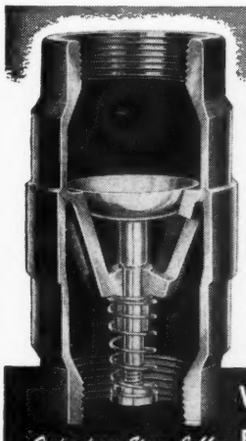
(*Continued from page 53*)

ducing 1,000 boiler horsepower at a maximum firing rate of 320 gph.

The new line of belt-drive horizontal rotary cup burners, made by Preferred Utilities for heavy-oil installations, was well displayed along with one of Preferred's commercial-industrial boiler-burner units. The uniqueness of the air-handling parts of the new pressure burner in this line, which was announced last year, is still of great interest to enthusiasts for highly-efficient gun type burners.

Although the Burnham cast-iron oil-designed boiler with the vertical, finned flue passages is nothing new to oil burner men, Burnham did come out with a surprise at the New York show by featuring this unit with an integral pressure oilburner, of Burnham design.

Too many domestic oilburners, mostly pressure burners, were exhibited at the exposition to permit mentioning each even briefly here. The four new products of Century Engineering, for example, including the very interesting "midget powerhouse" Century Crescent Boiler, cannot be dealt with in a few words. Dozens of old-timers in the burner industry, and more than a handful of newcomers who offer worthwhile contributions, served at the New York show to impress every visitor with the fact that the automatic heating industry is becoming increasingly oil-minded. After eyeing the scores of efficient-looking oilburners on display and hearing a good deal of talk about how efficiently they operate (when well installed and well serviced, of course), a heating engineer declared that the way to make certain there'll be no fueloil shortage next fall is to replace most of the old-jallopy oilburners with new models.



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IDEAL for oil or air lines. Noiseless. End leakage troubles. Not affected by oil or acid impurities in oil. Sizes, 3/8" to 2". May be placed in any position. Write for bulletin No. 601.

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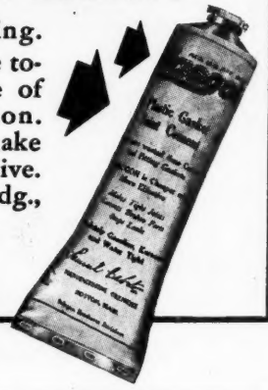
Plasgon is ideal for radiant heating installations and other pipe assemblies which must operate for long periods of time without need for servicing.

FREE Introductory Sample. Write today for your free introductory tube of Plasgon and complete information. Plasgon is also extensively used to make gaskets and as an all-purpose adhesive. Samuel Cabot, Inc., 2271 Oliver Bldg., Boston 9, Mass.

Plasgon



Oilheating Trends

(*Continued from page* 11)

New England group feels that it has gotten by up to now on its storage stocks, but doesn't believe that fresh supplies coming in will equal the necessary outgo. In the Mid-Atlantic region 66% of the reporting distributors expect to have enough oil during the rest of the season to take care of everyone, although that is the region where the most serious difficulty has developed thus far.

This group is pretty much dependent on tanker transportation. It knows that tankers have been badly tied up, for various reasons, but that they are now starting to become more plentiful.

In the returns from the Midwest, not one of the distributors voted that he did not expect to take care of his customers with their full needs, although it is significant that one-third of the companies were too uncertain to hazard an opinion one way or another. In commenting on this situation, most of the companies who don't expect to have enough made mention of the percentages by which their commitments have been reduced from last year, or else they express a percentage by which their allowed gallonage won't take care of all customers, including the new ones added in 1947.

On the whole, however, the comments look more optimistic than otherwise, largely because these distributors have never had to be directly responsible for finding the oil, and they feel that their customary suppliers are going to be able to get for them most of what they will need.

A little more than two-thirds of the fueloil distributors reporting have written their customers outlining fuel conservation suggestions, and telling them that it will not be possible to give them as much oil as they had last season. By regions, the percent of dealers so notifying customers is: New England 52%; Mid-Atlantic 90%; Midwest 74%. On the other hand, only about one-eighth of the dealers have stated to their customers a specific percentage by which their gallonage must be reduced because no more oil can be given them. Some say that they have mailed letters putting emphasis on the 70-60 temperature theme "Not over 70° in daytime and not over 60° at night." Some dealers are trying to get the idea across by limiting the size of drops to less than normal, even though they temporarily have enough oil to make normal deliveries.

A few distributors express lack of confidence in consumer cooperation, by pointing out that if they reduce the gallonage some other dealer will sell them the amount that they are short, at a premium price.

LOCAL EMERGENCY POOLS: In 36% of the communities represented by the reporting fueloil distributors, community stock pools have been set aside to take care of emergency hardship cases. Typical of New England's thoroughness in all matters, is the figure of 71% reported on this question. This compares with only 25% of communities in the Mid-Atlantic states having such emergency pools established by the first week in January. The Midwest figure is 39%. Some of these pools are formal and embrace all of the operators in a market with a committee or a local municipal representative appointed to act on hardship cases. The second method appears where individual companies without concerted agreement, make available

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OUR WATER CIRCULATORS BUILT IN IRON ARE IN STOCK

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CRANFORD **GORTON HEATING CORP.** NEW JERSEY

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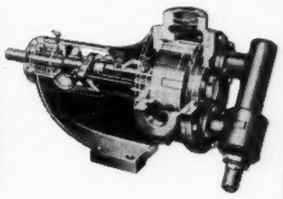
GENUINE
VIKING PUMPS



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Remember, please, that Vikings are engineered for your job . . . they are ruggedly constructed, with no small, intricate parts or timing gears to get out of order. Vikings mean long, trouble-free pumping service. Look for the registered Viking trademark or name on every genuine Viking pump. These are your guarantee of Viking superiority.

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See Our Catalog In SWEETS

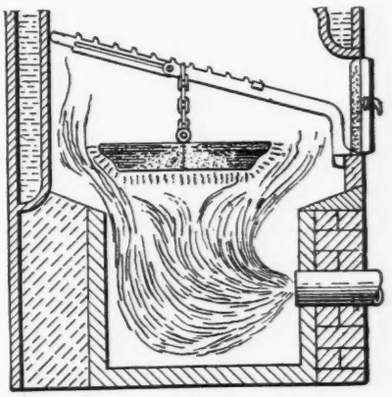
Viking PUMP COMPANY
Cedar Falls, Iowa

SAVE FUEL OIL

BY INSTALLING

IRON-HIDE BAFFLES

PAT. PEND.



IRON-HIDE ADJUSTABLE BAFFLE SUPPORT SIMPLIFIES INSTALLATION (PAT. PEND.)

Both round and rectangular baffles are in two halves. They are hinged together, and will always pass thru any boiler feed door. No bolting necessary.

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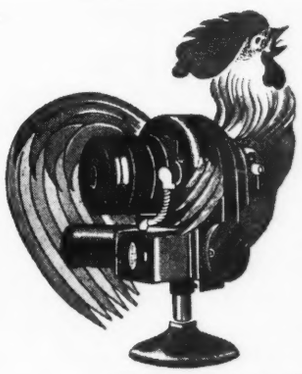

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Attractive
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Recommend furnace cleaning whenever necessary. Use E-Z Fuel Oil Soot Destroyer. (Cleans fuel oil soot only.) One application removes all soot. Customers like the resulting fuel saving. Profits are *big*. Order the No. 5 Cans for your own use. Stock No. 1 Cans for sale to your customers. If your Distributor cannot supply you, order direct.

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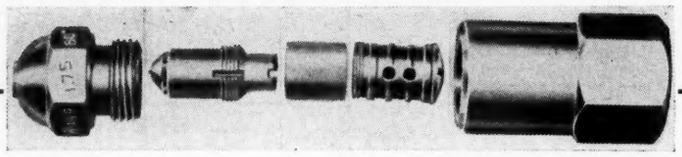

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ACCURATE CAPACITY RATINGS AND SPRAY ANGLES
ARE THE NATURAL RESULTS OF OUR
PRECISION WORKMANSHIP

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PRECISION MEANS HAGO!

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through the official source some specific gallonage, as was done, for example, in New York City.

The most common arrangement of the lot, however, seems to be the one through which the smaller fueloil distributors in a particular neighborhood help each other out by lending supplies to the one faced with an emergency. In communities that do not have any form of cooperative relief for hardship, meetings are being held at the moment to try and work out some pattern. In occasional cities, for example St. Louis, a hardship pool was started and then discontinued because of abuse.

OILBURNER SALES EFFECT: Oilheating dealers are not too badly discouraged about the adverse effects of unfavorable oil supply publicity. Based on the total of dealears reporting, from every section of the country, the expectation is that 1948 burner installations will be about 24% below those of 1947. This would indicate 1948 installations at about 625,000 domestic burners and units, probably not a bad guess.

Nearly two-fifths (38%) expect 1948 to be about equal with 1947, while about four percent expect it to be higher. That leaves 58% who expect drops in amounts varying from ten to ninety percent, with the overall average as previously stated. The general attitude is that people soon forget unfavorable publicity such as that of this winter, and while the early part of the year will undoubtedly be weak, the later months will be fairly satisfactory. About three-fourths of the dealers are not now selling burners for conversions from coal, but yet are doing a fair business on replacements and new homes.

◈

Oil Equipment Laboratories, Inc., Elizabeth 4, N. J. Data sheets on Model G Rotoflame gun type oilburner. Drawings and copy explain the Heatlock feature, a damper installed in the air intake, which automatically opens when the burner is running and the SynOILator mixing head, which insures balance between the oil rate, air input, interchangeable combustion head and centrifuse firing assembly. Application of Spot-O-Lite, electric eye flame control, is pictured, as installed. Another sheet contains data and illustrations of Rotoflame's boiler-burner unit, of wet-base design for steam or hot water installations. Dimensional drawings, tables and ratings are included.

Atlantic Steel Boiler Co., Philadelphia, Pa. A small and large 4-page folder on oilburning boilers. Both show the jacketed boiler and a cut-a-way view illustrates interior construction, with the larger folder containing discussion and explanations of features and advantages. Ratings and specifications are given.

Morse-Smith-Morse, Inc., Watertown, Mass. Folder on Firomatic safety devices, such as lever valve, combination, all-purpose, ball check and globe valves and thermal switch. A diagram shows installation of all safety devices on a burner, illustrating placement of fusible links and thermal switch. Fueloil filters, in two sizes, storage tank gauge, vent cap and nozzle wrench are other items also discussed. Application and specification data are given wherever applicable.

HAYWARD OIL BURNERS

ROTARY and PRESSURE ATOMIZING TYPES

Dealer and Distributor Inquiries Invited.

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The Original. Still the Best. Hundreds of Thousands in Use. • Holds the draft constant in the fire box. • Scientific draft control for the smallest to the largest jobs. • Stove, domestic, and commercial sizes from 4" to 24" in diameter. • Industrial sizes from 24" x 24" to 5' x 12'.

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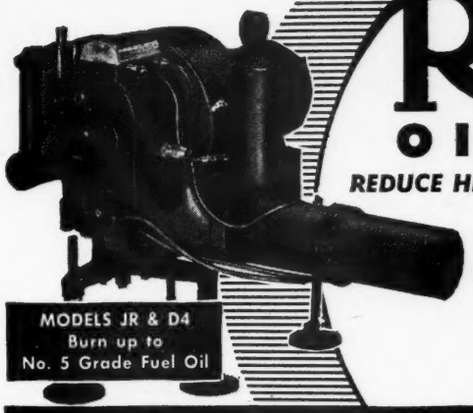
REDUCE HEATING COSTS . . . INCREASE PROFITS



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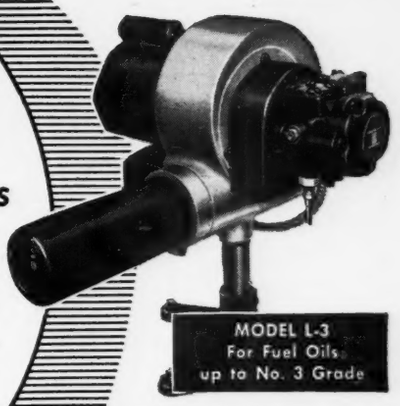
Burn up to
No. 5 Grade Fuel Oil

These two sturdy, efficient oil burners are built to give years of satisfactory service. Models for No. 5 heavy fuel oil operate on the diesel principle with a 2-cylinder compressor unit, integral oil pump, automatic pre-heating and lubrication. The Model L-3 for No. 3 oil is a precision-machined unit ideal for conversion installations with capacities up to 5 G.P.Hr.



MODEL L-3
For Fuel Oils
up to No. 3 Grade

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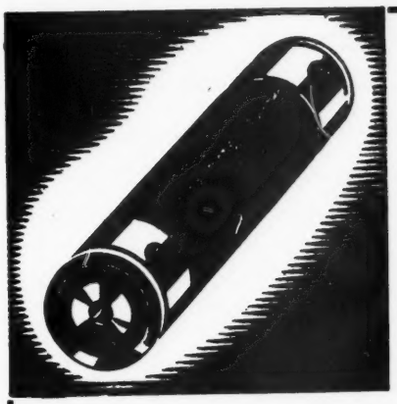

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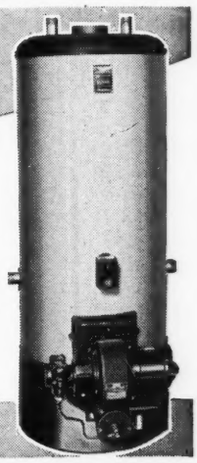

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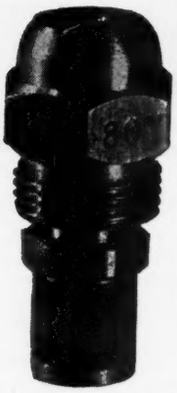

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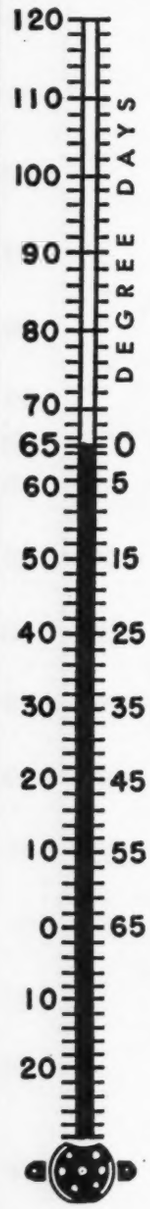

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DEGREE DAY TABLES

ONE MONTH ONLY						SEASON TO DATE			
	December		Percent		(Sept. to Dec. 31)			Percent
Normal	1946	1947	Change*		Normal	1946	1947	Change*
1139	1134	1316	+ 15.5	Albany	2421	2240	2644	+ 9.2
640	509	570	— 10.9	Atlanta	1175	873	1114	— 5.2
852	699	865	+ 1.5	Baltimore	1647	1223	1595	— 3.2
1000	940	1073	+ 7.3	Boston	2087	1752	2089	..
1102	1037	1135	+ 3.0	Buffalo	2384	2032	2302	— 3.4
1108	1028	1086	— 1.9	Chicago	2235	2013	2222	— 0.6
953	767	858	— 9.7	Cincinnati	1892	1818	1669	— 11.8
1040	959	1040	..	Cleveland	2174	1813	2124	— 2.3
571	397	512	— 10.3	Dallas	944	717	933	— 1.2
1012	790	900	— 11.1	Denver	2272	2252	1912	— 15.8
1200	1050	1108	— 7.7	Des Moines	2424	2192	2282	— 5.9
1120	1019	1117	..	Detroit	2369	1964	2280	— 3.8
1129	1025	1081	— 4.3	Grand Rapids	2456	2015	2255	— 8.2
1052	1013	1154	+ 9.7	Hartford	2217	1930	2309	+ 4.1
1245	1204	1184	— 4.9	Helena	3074	3458	3080	+ 0.2
331	212	297	— 10.3	Houston	520	354	479	— 7.9
1026	917	1033	+ 0.7	Indianapolis	2053	1715	2003	— 2.4
986	807	859	— 12.9	Kansas City	1877	1558	1725	— 8.1
225	266	260	+ 15.6	Los Angeles	383	531	407	+ 6.3
875	708	804	— 8.2	Louisville	1677	1295	1569	— 6.4
1198	1153	1181	— 1.4	Milwaukee	2515	2395	2535	+ 0.8
1415	1376	1466	+ 3.6	Minneapolis	3005	2966	3031	+ 0.9
305	270	286	— 6.2	New Orleans	475	364	658	— 38.5
934	832	963	+ 3.1	New York	1859	1442	1804	— 3.0
1163	1029	1127	— 3.1	Omaha	2310	2141	2261	— 2.1
877	836	905	+ 3.2	Philadelphia	1697	1508	1688	— 0.5
979	897	1005	+ 2.7	Pittsburgh	2028	1700	2015	— 0.6
1172	1187	1307	+ 11.5	Portland, Me.	2602	2504	2552	— 1.9
729	716	622	— 14.7	Portland, Ore.	1676	1930	1462	— 12.8
1015	915	1041	+ 2.6	Providence	2157	1806	2042	— 5.3
917	777	840	— 8.4	St. Louis	1729	1483	1733	+ 0.2
1040	908	1025	— 1.4	Salt Lake City	2224	2425	2303	+ 3.6
426	504	436	+ 2.3	San Francisco	930	1226	973	+ 4.6
1373	1398	1388	+ 1.1	Sault Ste. Marie	3233	3123	3087	— 4.5
708	741	662	— 6.5	Seattle	1812	2060	1749	— 3.5
1090	1021	1142	+ 4.8	Toledo	2278	1996	2317	+ 1.7
870	724	869	..	Washington	1725	1250	1587	— 8.0

*Compared with normal.